WorldLiterature@UCLA

USER MANUAL

Prepared in collaboration by
Nick de Carlo, David Kim, Wendy Kurtz, and Harry Xie

Table of Contents

Step 1: Building translation networks
- A. Finding translations with Wikipedia
- B. Google Drive procedures
- C. WorldCat and other procedures
- D. Nodes Table (Formatting Data for Gephi Part 1)
- E. Edges Table (Formatting Data for Gephi Part 2)

Step 2: Downloading Gephi

Step 3: Data Visualization with Gephi
- A. Uploading the data
- B. Controlling the layout
- C. Set the repulsion strength
- D. Ranking nodes
- E. Statistics
- F. Ranking nodes (betweenness)
- G. Ranking nodes (size)
- H. Layout
- I. Labels
- J. Community detection
- K. Partition
- L. Filters
- M. Preview

Step 4: Uploading student project on *WorldLiterature@UCLA*
- A. Login account
- B. Add new graph
- C. Submit and review

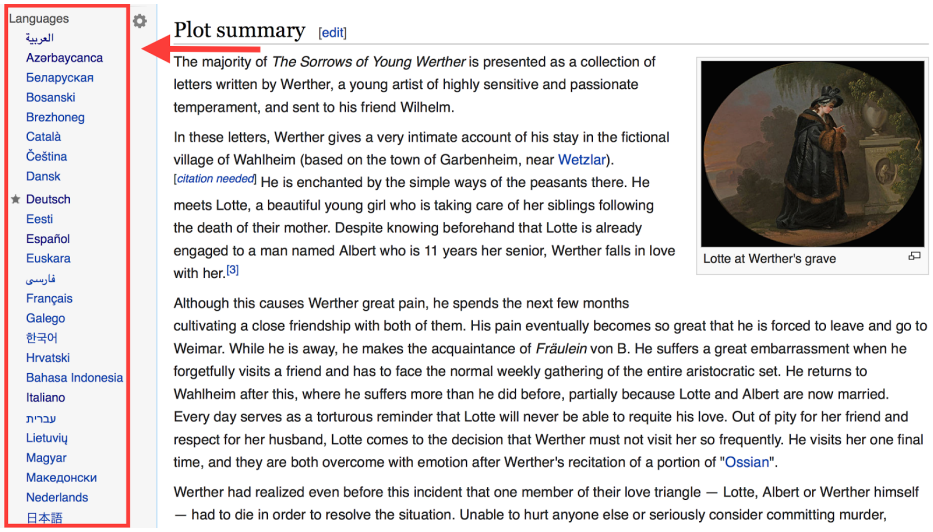
Step 1: Building translation networks

In your project, you will create three layers of scholarly networks that are illustrative of the concept of world literature. In order to build the first layer of translations, you will use Wikipedia to find the languages into which a text has been translated. Then, you will repeat the process with WorldCat, the HathiTrust Digital Library, and the Deutsche Digitale Bibliothek. The pieces of information are recorded on Excel spreadsheets and they include (1) the name of the translator, (2) the number of the edition (if applicable), (3) the year of publication, and (4) the publication location.

A. Finding translations with Wikipedia

1. From the Wikipedia main page, www.wikipedia.org, search for the title of the text in the search bar. We will use Goethe's *Die Leiden des jungen Werthers* as an example. In the search bar, enter the title of the book in English: "Sorrows of Young Werther."

2. When you see the main entry for the text, there is a list of languages on the left side of the screen. Please select the language(s) for which you are responsible. This responsibility is determined in communication with Professor Kim. To identify what the language is, please ensure that you use the English listing and scroll your mouse over the language name. Do not click on the word itself.


Languages
العربية
Azərbaycanca
Беларуская
Bosanski
Brezhoneg
Català
Čeština
Dansk
Deutsch
Eesti
Español
Euskara
فارسی
Français
Galego
한국어
Hrvatski
Bahasa Indonesia
Italiano
עברית
Lietuvių
Magyar
Македонски
Nederlands
日本語
Plot summary [edit]
The majority of The Sorrows of Young Werther is presented as a collection of letters written by Werther, a young artist of highly sensitive and passionate temperament, and sent to his friend Wilhelm.
In these letters, Werther gives a very intimate account of his stay in the fictional village of Wahlheim (based on the town of Garbenheim, near Wetzlar). [citation needed] He is enchanted by the simple ways of the peasants there. He meets Lotte, a beautiful young girl who is taking care of her siblings following the death of their mother. Despite knowing beforehand that Lotte is already engaged to a man named Albert who is 11 years her senior, Werther falls in love with her.[3]
Lotte at Werther's grave
Although this causes Werther great pain, he spends the next few months cultivating a close friendship with both of them. His pain eventually becomes so great that he is forced to leave and go to Weimar. While he is away, he makes the acquaintance of Fräulein von B. He suffers a great embarrassment when he forgetfully visits a friend and has to face the normal weekly gathering of the entire aristocratic set. He returns to Wahlheim after this, where he suffers more than he did before, partially because Lotte and Albert are now married. Every day serves as a torturous reminder that Lotte will never be able to requite his love. Out of pity for her friend and respect for her husband, Lotte comes to the decision that Werther must not visit her so frequently. He visits her one final time, and they are both overcome with emotion after Werther's recitation of a portion of "Ossian".
Werther had realized even before this incident that one member of their love triangle — Lotte, Albert or Werther himself — had to die in order to resolve the situation. Unable to hurt anyone else or seriously consider committing murder,

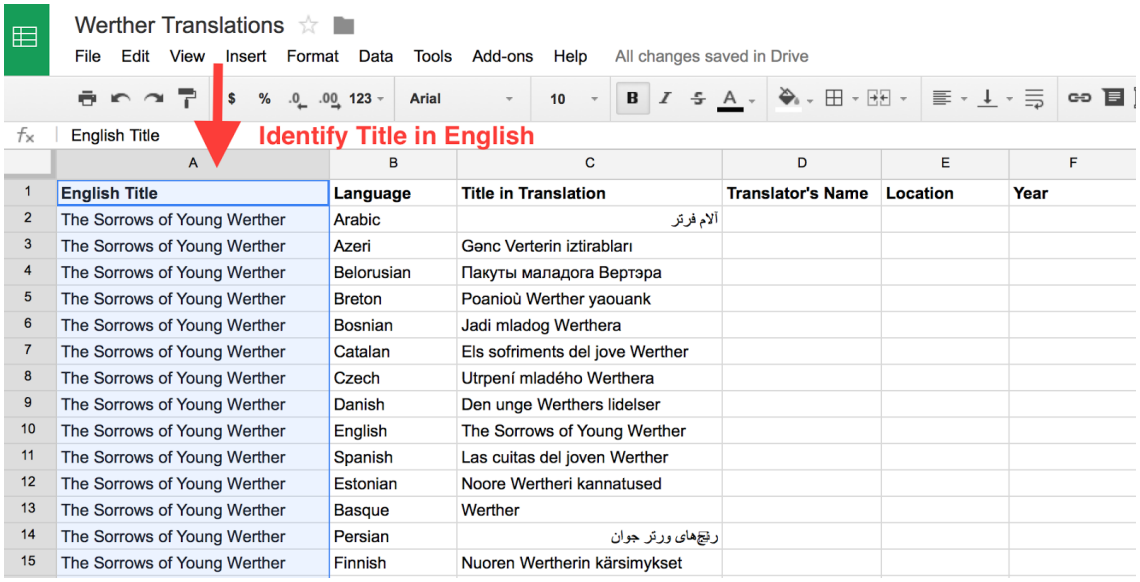
3. Once you arrive at the redirected entry in the foreign language, look for the title of the translation. Do not worry about the translator, the place or the year of publication at this stage.

Artículo
Discusión
Leer
Editar
Las cuitas del joven Werther
Las cuitas[1] del joven Werther, Las desventuras del joven Werther o Las aventuras del joven Werther (en alemán, Die Leiden des jungen Werthers, y, por lo tanto, preferentemente Los padecimientos del joven Werther) es una novela epistolar semiautobiográfica de Johann Wolfgang von Goethe, publicada en 1774. La escena principal muestra fundamentalmente la traducción alemana de Goethe de una porción del ciclo de poemas Ossian que, aunque originalmente se consideraban traducciones de obras antiguas, posteriormente se descubrió que habían sido escritos por James Macpherson[cita requerida].
Werther es una novela importante del movimiento Sturm und Drang en la literatura alemana. Es uno de los pocos trabajos de este movimiento que Goethe escribió antes de que, junto a Friedrich von Schiller, comenzara el movimiento clásico de Weimar. También influyó en la literatura del Romanticismo que siguió a este movimiento.
El libro[2] hizo que Goethe se convirtiera en una de las primeras celebridades literarias. Hacia el fin de su vida, viajar a Weimar y visitar al maestro era un ritual para muchos jóvenes que viajaban a Europa. Muchos de los que lo visitaban, sólo habían leído ese libro, entre todos los que él había escrito.

B. Google Drive procedures

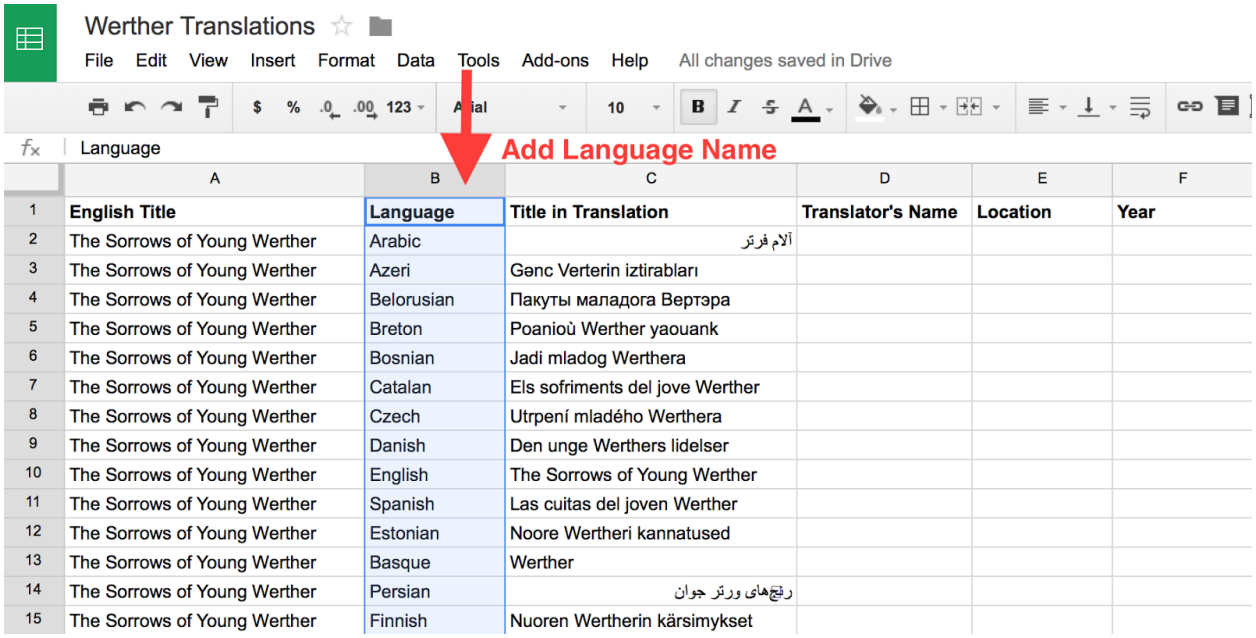
Compile a list of translated titles on a shared Google spreadsheet. If you do not have a Gmail account, sign up for free. A template has been created and can be found here: https://docs.google.com/a/g.ucla.edu/spreadsheets/d/1wg6YQQcVrWwVBVdDLTliEKrhffaydMyLX4K9a0QG6Ws/edit#gid=0. You will add the translated titles of the text to this spreadsheet. *Please be careful not to delete entries by mistake!*

1. Under Column A, please identify the title in English.


Werther Translations
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive
Identify Title in English

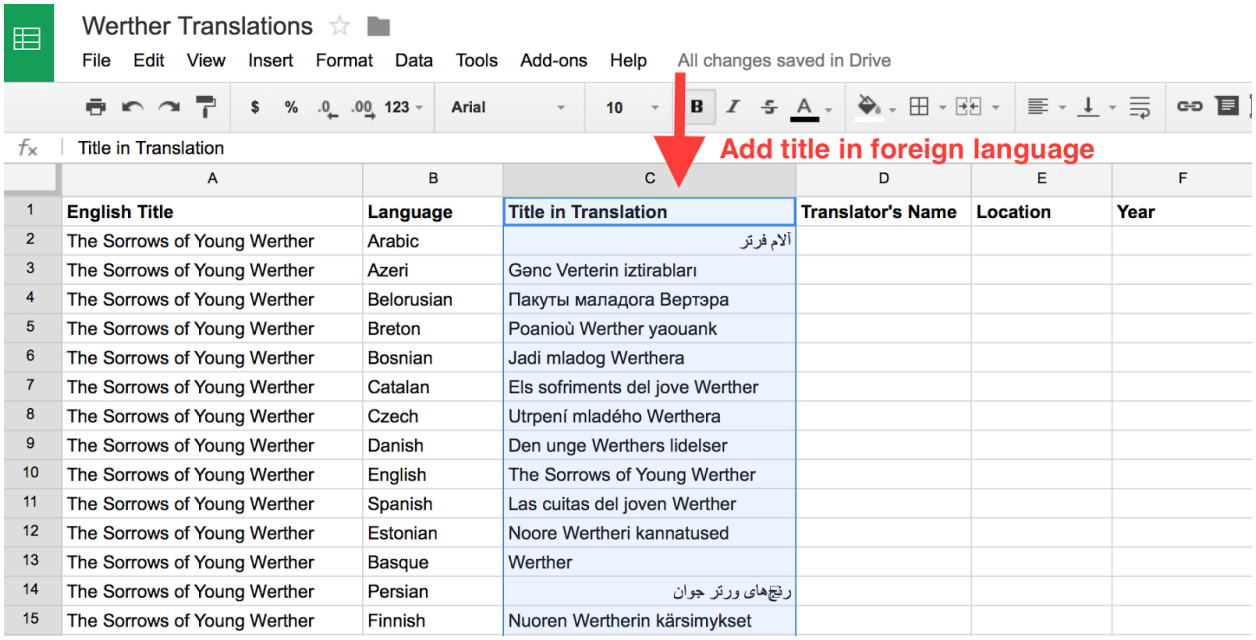
	A	B	C	D	E	F
1	**English Title**	**Language**	**Title in Translation**	**Translator's Name**	**Location**	**Year**
2	The Sorrows of Young Werther	Arabic	آلام فرتر			
3	The Sorrows of Young Werther	Azeri	Gənc Verterin iztirabları			
4	The Sorrows of Young Werther	Belorusian	Пакуты маладога Вертэра			
5	The Sorrows of Young Werther	Breton	Poanioù Werther yaouank			
6	The Sorrows of Young Werther	Bosnian	Jadi mladog Werthera			
7	The Sorrows of Young Werther	Catalan	Els sofriments del jove Werther			
8	The Sorrows of Young Werther	Czech	Utrpení mladého Werthera			
9	The Sorrows of Young Werther	Danish	Den unge Werthers lidelser			
10	The Sorrows of Young Werther	English	The Sorrows of Young Werther			
11	The Sorrows of Young Werther	Spanish	Las cuitas del joven Werther			
12	The Sorrows of Young Werther	Estonian	Noore Wertheri kannatused			
13	The Sorrows of Young Werther	Basque	Werther			
14	The Sorrows of Young Werther	Persian	رنج‌های ورتر جوان			
15	The Sorrows of Young Werther	Finnish	Nuoren Wertherin kärsimykset			

2. Under Column B, identify the language for which you are responsible. For example, Spanish.



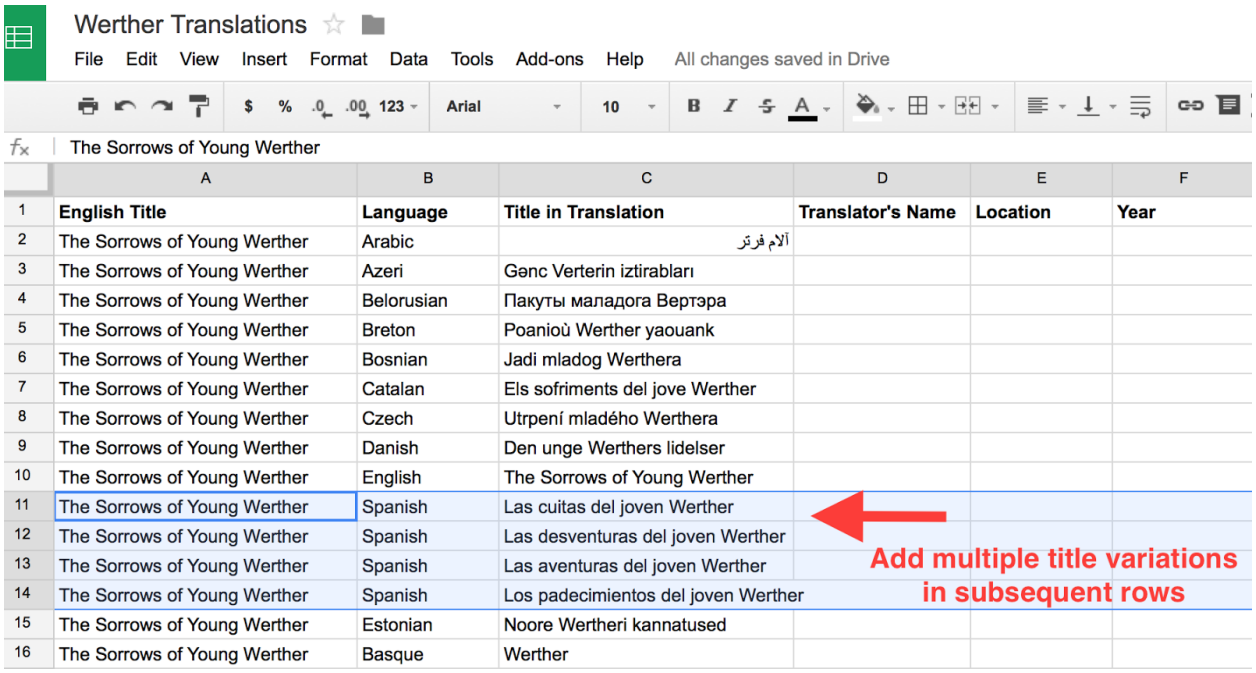
	A	B	C	D	E	F
1	**English Title**	**Language**	**Title in Translation**	**Translator's Name**	**Location**	**Year**
2	The Sorrows of Young Werther	Arabic	آلام فرتر			
3	The Sorrows of Young Werther	Azeri	Gənc Verterin iztirabları			
4	The Sorrows of Young Werther	Belorusian	Пакуты маладога Вертэра			
5	The Sorrows of Young Werther	Breton	Poanioù Werther yaouank			
6	The Sorrows of Young Werther	Bosnian	Jadi mladog Werthera			
7	The Sorrows of Young Werther	Catalan	Els sofriments del jove Werther			
8	The Sorrows of Young Werther	Czech	Utrpení mladého Werthera			
9	The Sorrows of Young Werther	Danish	Den unge Werthers lidelser			
10	The Sorrows of Young Werther	English	The Sorrows of Young Werther			
11	The Sorrows of Young Werther	Spanish	Las cuitas del joven Werther			
12	The Sorrows of Young Werther	Estonian	Noore Wertheri kannatused			
13	The Sorrows of Young Werther	Basque	Werther			
14	The Sorrows of Young Werther	Persian	رنج‌های ورتر جوان			
15	The Sorrows of Young Werther	Finnish	Nuoren Wertherin kärsimykset			

3. Under Column C, copy and paste the title in the foreign language, i.e., *La cuitas de joven Werther* (in Spanish), *I dolori del giovane Werther* (in Italian) or *Noore Wertheri kannatused* (in Estonian).


Werther Translations
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive
Title in Translation
Add title in foreign language

	A	B	C	D	E	F
1	**English Title**	**Language**	**Title in Translation**	**Translator's Name**	**Location**	**Year**
2	The Sorrows of Young Werther	Arabic	آلام فرتر			
3	The Sorrows of Young Werther	Azeri	Gənc Verterin iztirabları			
4	The Sorrows of Young Werther	Belorusian	Пакуты маладога Вертэра			
5	The Sorrows of Young Werther	Breton	Poanioù Werther yaouank			
6	The Sorrows of Young Werther	Bosnian	Jadi mladog Werthera			
7	The Sorrows of Young Werther	Catalan	Els sofriments del jove Werther			
8	The Sorrows of Young Werther	Czech	Utrpení mladého Werthera			
9	The Sorrows of Young Werther	Danish	Den unge Werthers lidelser			
10	The Sorrows of Young Werther	English	The Sorrows of Young Werther			
11	The Sorrows of Young Werther	Spanish	Las cuitas del joven Werther			
12	The Sorrows of Young Werther	Estonian	Noore Wertheri kannatused			
13	The Sorrows of Young Werther	Basque	Werther			
14	The Sorrows of Young Werther	Persian	رنج‌های ورتر جوان			
15	The Sorrows of Young Werther	Finnish	Nuoren Wertherin kärsimykset			

4. If there are multiple variations of the translation, enter them separately as subsequent entries on the spreadsheet. Add a row for each variation.


Werther Translations
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive
The Sorrows of Young Werther
Add multiple title variations
in subsequent rows

	A	B	C	D	E	F
1	**English Title**	**Language**	**Title in Translation**	**Translator's Name**	**Location**	**Year**
2	The Sorrows of Young Werther	Arabic	آلام فرتر			
3	The Sorrows of Young Werther	Azeri	Gənc Verterin iztirabları			
4	The Sorrows of Young Werther	Belorusian	Пакуты маладога Вертэра			
5	The Sorrows of Young Werther	Breton	Poanioù Werther yaouank			
6	The Sorrows of Young Werther	Bosnian	Jadi mladog Werthera			
7	The Sorrows of Young Werther	Catalan	Els sofriments del jove Werther			
8	The Sorrows of Young Werther	Czech	Utrpení mladého Werthera			
9	The Sorrows of Young Werther	Danish	Den unge Werthers lidelser			
10	The Sorrows of Young Werther	English	The Sorrows of Young Werther			
11	The Sorrows of Young Werther	Spanish	Las cuitas del joven Werther			
12	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther			
13	The Sorrows of Young Werther	Spanish	Las aventuras del joven Werther			
14	The Sorrows of Young Werther	Spanish	Los padecimientos del joven Werther			
15	The Sorrows of Young Werther	Estonian	Noore Wertheri kannatused			
16	The Sorrows of Young Werther	Basque	Werther			

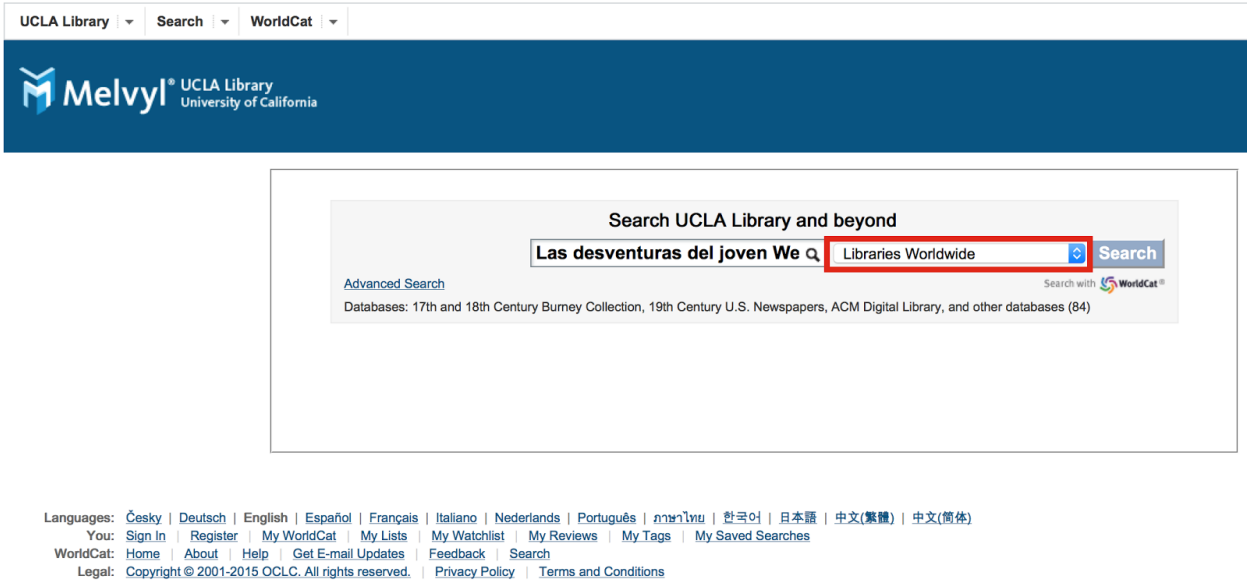
C. WorldCat and other procedures

WorldCat, the HathiTrust Digital Library (http://www.hathitrust.org/), and the Deutsche Digitale Bibliothek (https://www.deutsche-digitale-bibliothek.de/) will help generate a more detailed picture of the translations. You will search for more information about the translations in each language and include that information in the Google spreadsheet.

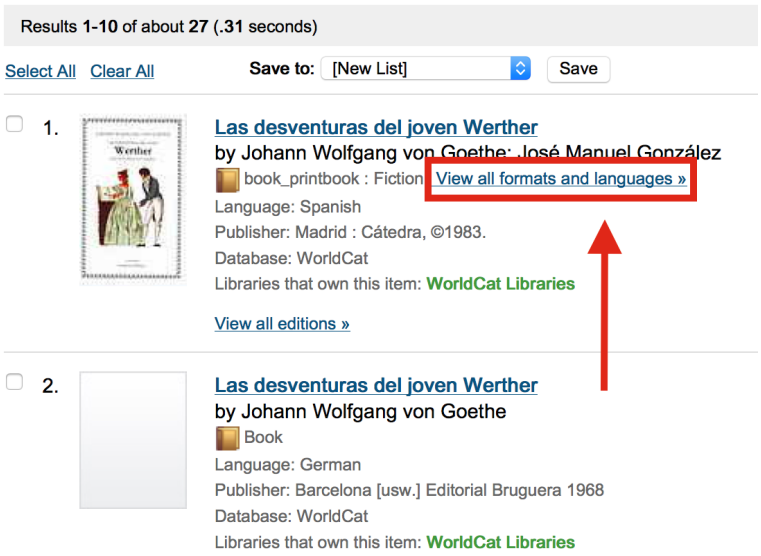
1. Locate the WorldCat database through the UCLA library online portal or go directly to http://ucla.worldcat.org/. Select WorldCat (OCLC First Search) link on the list. In order to connect to the UCLA network in order to access WorldCat, you must be connected to the campus wifi or through a proxy server (or VPN) from off-campus. You can find information about connecting to the library network from off campus here: http://www.library.ucla.edu/use/computers-computing-services/connect-campus

2. Change drop down menu to "Libraries Worldwide." Use "Basic Search" for the following steps.

3. From the spreadsheet with the title names, choose the target language. Copy and paste that title into the search bar.


UCLA Library
Search
WorldCat
Melvyl
UCLA Library
University of California
Search UCLA Library and beyond
Las desventuras del joven We
Libraries Worldwide
Search
Advanced Search
Search with WorldCat
Databases: 17th and 18th Century Burney Collection, 19th Century U.S. Newspapers, ACM Digital Library, and other databases (84)
Languages: Česky | Deutsch | English | Español | Français | Italiano | Nederlands | Português | ภาษาไทย | 한국어 | 日本語 | 中文(繁體) | 中文(简体)
You: Sign In | Register | My WorldCat | My Lists | My Watchlist | My Reviews | My Tags | My Saved Searches
WorldCat: Home | About | Help | Get E-mail Updates | Feedback | Search
Legal: Copyright © 2001-2015 OCLC. All rights reserved. | Privacy Policy | Terms and Conditions

4. When you are on the WorldCat site, for the first entry find the title with "by Wolfgang Goethe" and click on "View all formats and languages." Please ignore, subsequent entries.


Results 1-10 of about 27 (.31 seconds)
Select All Clear All
Save to: [New List]
Save
1.
Las desventuras del joven Werther
by Johann Wolfgang von Goethe; José Manuel González
book_printbook : Fiction
View all formats and languages »
Language: Spanish
Publisher: Madrid : Cátedra, ©1983.
Database: WorldCat
Libraries that own this item: WorldCat Libraries
View all editions »
2.
Las desventuras del joven Werther
by Johann Wolfgang von Goethe
Book
Language: German
Publisher: Barcelona [usw.] Editorial Bruguera 1968
Database: WorldCat
Libraries that own this item: WorldCat Libraries

5. From that click, extract as many of the following detail as you can in the following categories:

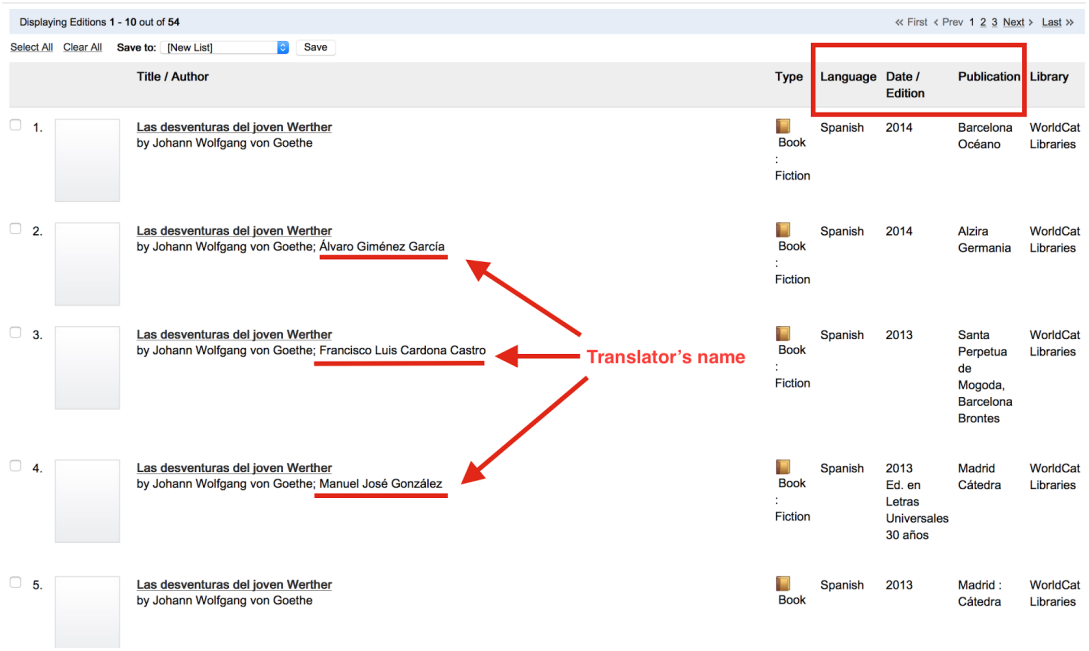
a. translator's name

b. publication location

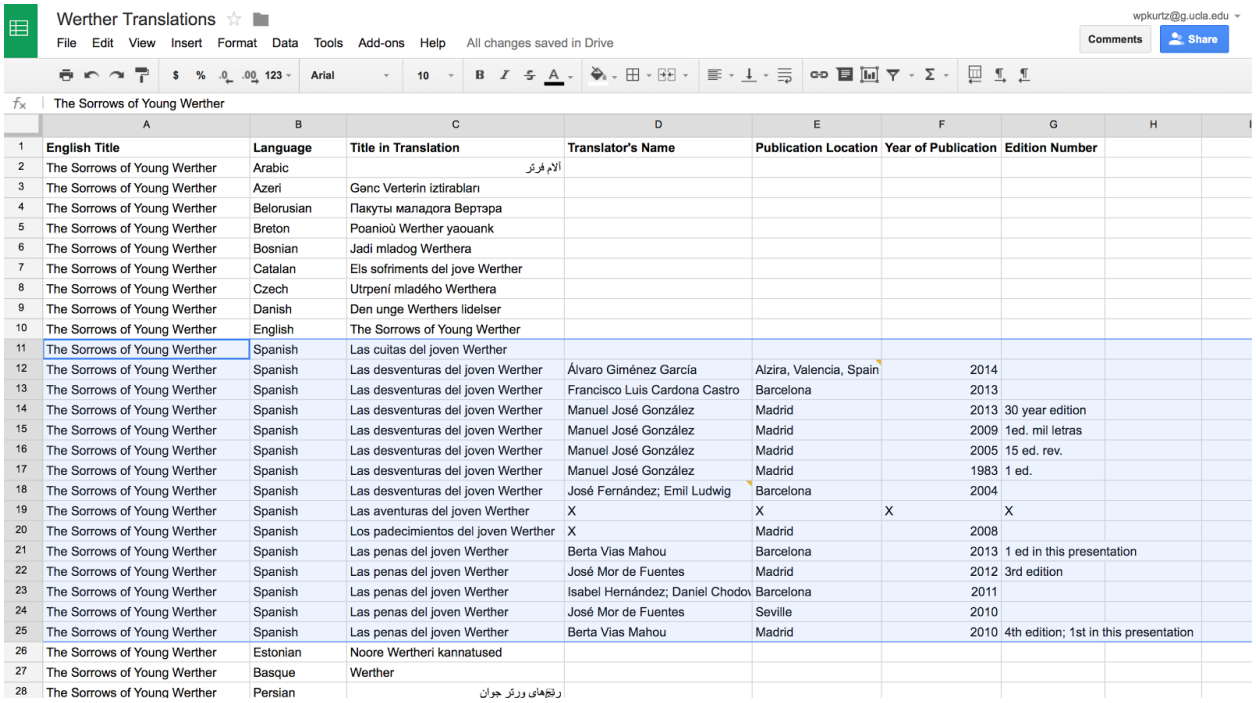
c. year of publication

d. the number of edition (if applicable)

If you are unable to find this information, please ask Professor Kim about making use of the HathiTrust Digital Library and the Deutsche Digitale Bibliothek.


Displaying Editions 1 - 10 out of 54
« First ‹ Prev 1 2 3 Next › Last »
Select All Clear All Save to: [New List] Save
Title / Author
Type
Language
Date / Edition
Publication
Library
1. Las desventuras del joven Werther by Johann Wolfgang von Goethe
Book : Fiction
Spanish
2014
Barcelona Océano
WorldCat Libraries
2. Las desventuras del joven Werther by Johann Wolfgang von Goethe; Álvaro Giménez García
Book : Fiction
Spanish
2014
Alzira Germania
WorldCat Libraries
3. Las desventuras del joven Werther by Johann Wolfgang von Goethe; Francisco Luis Cardona Castro
Translator's name
Book : Fiction
Spanish
2013
Santa Perpetua de Mogoda, Barcelona Brontes
WorldCat Libraries
4. Las desventuras del joven Werther by Johann Wolfgang von Goethe; Manuel José González
Book : Fiction
Spanish
2013 Ed. en Letras Universales 30 años
Madrid Cátedra
WorldCat Libraries
5. Las desventuras del joven Werther by Johann Wolfgang von Goethe
Book
Spanish
2013
Madrid : Cátedra
WorldCat Libraries

6. For each unique translation, add a new row and enter the appropriate information on the Google Spreadsheet.



Werther Translations

File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

wpkurtz@g.ucla.edu

Comments Share

The Sorrows of Young Werther

	A	B	C	D	E	F	G	H
1	**English Title**	**Language**	**Title in Translation**	**Translator's Name**	**Publication Location**	**Year of Publication**	**Edition Number**	
2	The Sorrows of Young Werther	Arabic	آلام فرتر					
3	The Sorrows of Young Werther	Azeri	Gənc Verterin iztirabları					
4	The Sorrows of Young Werther	Belorusian	Пакуты маладога Вертэра					
5	The Sorrows of Young Werther	Breton	Poanioù Werther yaouank					
6	The Sorrows of Young Werther	Bosnian	Jadi mladog Werthera					
7	The Sorrows of Young Werther	Catalan	Els sofriments del jove Werther					
8	The Sorrows of Young Werther	Czech	Utrpení mladého Werthera					
9	The Sorrows of Young Werther	Danish	Den unge Werthers lidelser					
10	The Sorrows of Young Werther	English	The Sorrows of Young Werther					
11	The Sorrows of Young Werther	Spanish	Las cuitas del joven Werther					
12	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Álvaro Giménez García	Alzira, Valencia, Spain	2014		
13	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Francisco Luis Cardona Castro	Barcelona	2013		
14	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Manuel José González	Madrid	2013	30 year edition	
15	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Manuel José González	Madrid	2009	1ed. mil letras	
16	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Manuel José González	Madrid	2005	15 ed. rev.	
17	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	Manuel José González	Madrid	1983	1 ed.	
18	The Sorrows of Young Werther	Spanish	Las desventuras del joven Werther	José Fernández; Emil Ludwig	Barcelona	2004		
19	The Sorrows of Young Werther	Spanish	Las aventuras del joven Werther	X	X	X	X	
20	The Sorrows of Young Werther	Spanish	Los padecimientos del joven Werther	X	Madrid	2008		
21	The Sorrows of Young Werther	Spanish	Las penas del joven Werther	Berta Vias Mahou	Barcelona	2013	1 ed in this presentation	
22	The Sorrows of Young Werther	Spanish	Las penas del joven Werther	José Mor de Fuentes	Madrid	2012	3rd edition	
23	The Sorrows of Young Werther	Spanish	Las penas del joven Werther	Isabel Hernández; Daniel Chodov	Barcelona	2011		
24	The Sorrows of Young Werther	Spanish	Las penas del joven Werther	José Mor de Fuentes	Seville	2010		
25	The Sorrows of Young Werther	Spanish	Las penas del joven Werther	Berta Vias Mahou	Madrid	2010	4th edition; 1st in this presentation	
26	The Sorrows of Young Werther	Estonian	Noore Wertheri kannatused					
27	The Sorrows of Young Werther	Basque	Werther					
28	The Sorrows of Young Werther	Persian	رنج‌های ورتر جوان					

Before working with Gephi, we need to create two comma separated value files (CSV) in Excel.

1. *Nodes*: individual, unique data points
2. *Edges*: relationship between nodes

D. <u>Nodes Table</u>

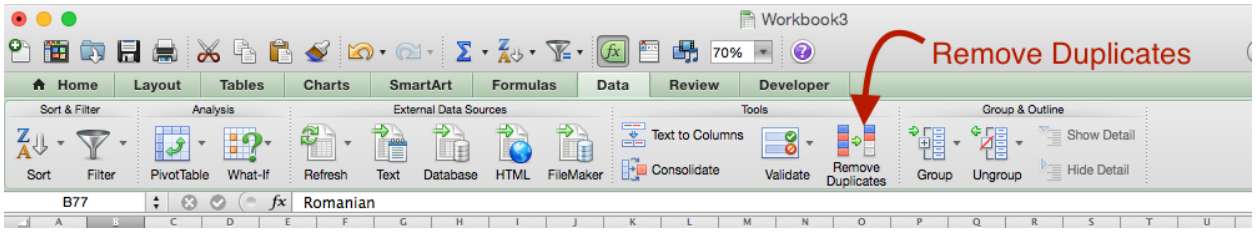
You will first create a table of all of the individual unique data values (nodes). How they are related to each other is of no consequence here. What you are looking for are unique values.

1. Take all of the items on the Google Drive sheet under the <u>language</u> and the <u>year of publication</u> columns.

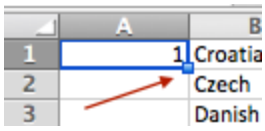
2. Open Excel and copy and paste these values in Column B, not A.

	A	B
77		Romanian
78		Romanian
79		Romanian
80		Romanian
81		Romanian
82		Romanian
83		Turkish
84		Turkish
85		Turkish
86		Turkish
87		Turkish
88		Turkish
89		Turkish
90		Turkish
91		Turkish
92		Turkish
93		Turkish
94		Turkish
95		Turkish
96		Turkish
97		Turkish
98		Turkish
99		Turkish
100		Turkish
101		Turkish
102		Turkish
103		Turkish
104		Turkish
105		Turkish
106		Turkish
107		Turkish
108		Turkish
109		Vietnamese
110		2004
111		2004
112		2004
113		2002
114		2001

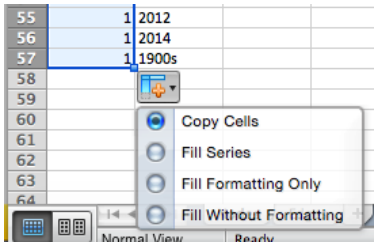
3. Notice the many duplicates! We need to delete them. Removing duplicates is easy: Highlight column B and, under the "Data" tab, click on "Remove Duplicates"



4. With the duplicates gone, you should have unique values, these are your "nodes."
   a. Once those are in, enumerate column A. To enumerate quickly on Excel, type "1" in the first cell, click on the bottom right corner (arrow).
   b. Once you've clicked there, hold it down and you'll see it change shape. It goes from a cross to a square with triangle corners in the upper left and lower right corners.

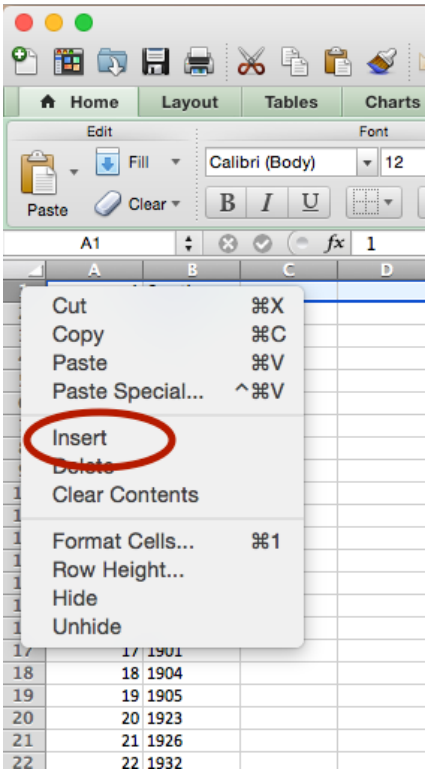


c. Drag this to the bottom of the list. You'll see a bunch of 1's, but don't worry. This will all change quickly.



d. Click on the "Fill Series" option and this will enumerate the selection. This step is CRUCIAL in making a functioning nodes table!

5. Now go back to the top and insert a new row labeled "id" for column A and "label" for column B.



6. Be sure to save this file as two types: (1) as an excel file, and (2) as a csv (comma separated value) file. You will be using the csv file in Gephi, but you will need the Excel file for your next table.

7. Now that the node table is complete, go back to Google Drive and create a spreadsheet with the name "Nodes", copying and pasting the data here you just formatted.

E. Edges Table

Now that the nodes are completed (make sure that each individual value has a number associated with it!), you are going to create a table that will tell Gephi how to show the relation between the nodes, what are called the edges. These steps may seem cumbersome, but they will introduce you to a few new ways of changing data in one swoop. Take heed, this could be VERY useful later on!

8. Open your nodes file in Excel and create a new Excel file. Save the file as "Edges_Setup".

9. Open the master file on Google Drive and, once again, copy the **Language** column.

10. Paste these items in column B of your new Edges_Setup worksheet.

11. Repeat the previous with **Year of Publication** columns. Paste these into column C.

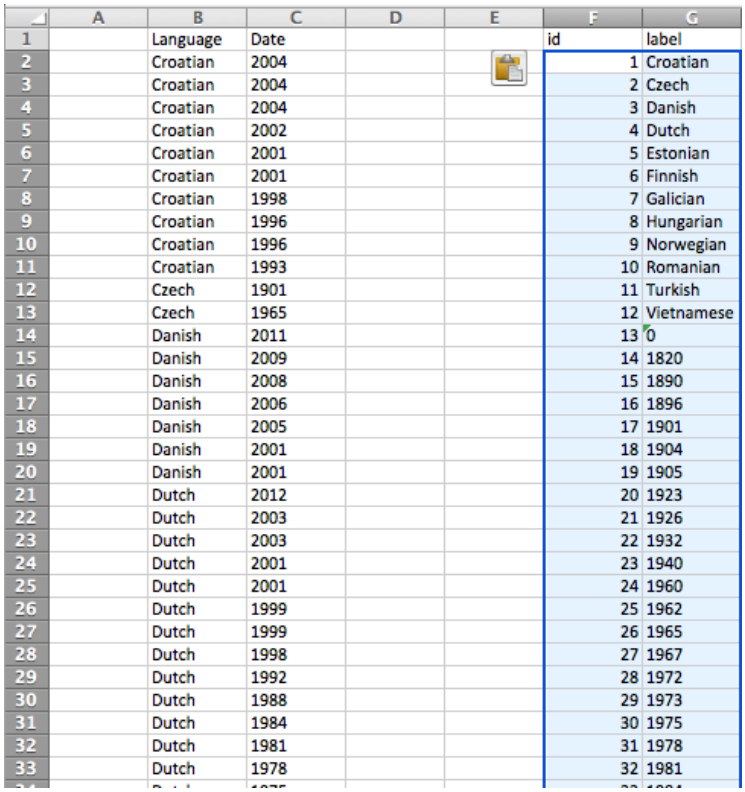
12. It should look like this in Excel.

	A	B	C
1		Language	Date
2		Croatian	2004
3		Croatian	2004
4		Croatian	2004
5		Croatian	2002
6		Croatian	2001
7		Croatian	2001
8		Croatian	1998
9		Croatian	1996
10		Croatian	1996
11		Croatian	1993
12		Czech	1901
13		Czech	1965
14		Danish	2011
15		Danish	2009
16		Danish	2008
17		Danish	2006
18		Danish	2005
19		Danish	2001
20		Danish	2001
21		Dutch	2012
22		Dutch	2003
23		Dutch	2003
24		Dutch	2001

13. Insert row labels of language and date (refer to step 5 in the nodes table)

14. Copy and paste the nodes information from your Excel file into columns F and G of your "Edges_Setup" file.

15. Your table should look like this:



	A	B	C	D	E	F	G
1		Language	Date			id	label
2		Croatian	2004			1	Croatian
3		Croatian	2004			2	Czech
4		Croatian	2004			3	Danish
5		Croatian	2002			4	Dutch
6		Croatian	2001			5	Estonian
7		Croatian	2001			6	Finnish
8		Croatian	1998			7	Galician
9		Croatian	1996			8	Hungarian
10		Croatian	1996			9	Norwegian
11		Croatian	1993			10	Romanian
12		Czech	1901			11	Turkish
13		Czech	1965			12	Vietnamese
14		Danish	2011			13	0
15		Danish	2009			14	1820
16		Danish	2008			15	1890
17		Danish	2006			16	1896
18		Danish	2005			17	1901
19		Danish	2001			18	1904
20		Danish	2001			19	1905
21		Dutch	2012			20	1923
22		Dutch	2003			21	1926
23		Dutch	2003			22	1932
24		Dutch	2001			23	1940
25		Dutch	2001			24	1960
26		Dutch	1999			25	1962
27		Dutch	1999			26	1965
28		Dutch	1998			27	1967
29		Dutch	1992			28	1972
30		Dutch	1988			29	1973
31		Dutch	1984			30	1975
32		Dutch	1981			31	1978
33		Dutch	1978			32	1981

16. This step requires you to put in a function into Excel. It's a relatively easy one.

a) In cell A2 type: ***=MATCH(B2, G:G, 0)-1***

b) Having completed this, drag the function down to the bottom of the list.

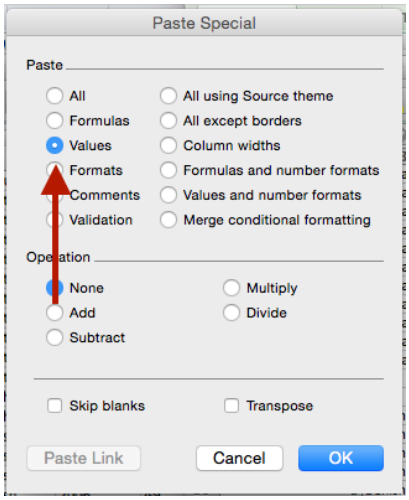
c) Now, move over to cell D2 and type: ***=MATCH(C2, G:G, 0)-1***

d) Drag that function to the bottom of your list.

Your completed table should look similar to this:

	A	B	C	D	E	F	G
1		Language	Date			id	label
2	1	Croatian	2004	47		1	Croatian
3	1	Croatian	2004	47		2	Czech
4	1	Croatian	2004	47		3	Danish
5	1	Croatian	2002	45		4	Dutch
6	1	Croatian	2001	44		5	Estonian
7	1	Croatian	2001	44		6	Finnish
8	1	Croatian	1998	41		7	Galician
9	1	Croatian	1996	39		8	Hungarian
10	1	Croatian	1996	39		9	Norwegian
11	1	Croatian	1993	37		10	Romanian
12	2	Czech	1901	17		11	Turkish
13	2	Czech	1965	26		12	Vietnamese
14	3	Danish	2011	54		13	0
15	3	Danish	2009	52		14	1820
16	3	Danish	2008	51		15	1890
17	3	Danish	2006	49		16	1896
18	3	Danish	2005	48		17	1901
19	3	Danish	2001	44		18	1904
20	3	Danish	2001	44		19	1905
21	4	Dutch	2012	55		20	1923
22	4	Dutch	2003	46		21	1926
23	4	Dutch	2003	46		22	1932
24	4	Dutch	2001	44		23	1940
25	4	Dutch	2001	44		24	1960
26	4	Dutch	1999	42		25	1962
27	4	Dutch	1999	42		26	1965
28	4	Dutch	1998	41		27	1967
29	4	Dutch	1992	36		28	1972

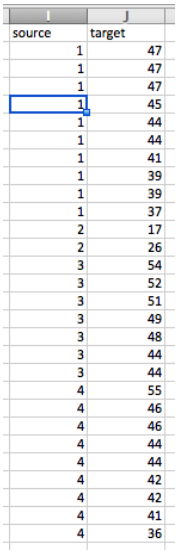
17. This step is crucial in creating a functioning edges tab. Now, copy column A and use ***special paste*** (right click and choose the option). When pasting, be sure to click on "Values". These values go into column I, starting at *I2*, not *I1*! Once you've pasted, type "source" into I1



18. Now, repeat the process in step 6 for column D. ***Special paste*** this data into column J, starting at J2.

19. Once done, label J1 "target."

20. Columns I and J should now appear like this:



I	J
source	target
1	47
1	47
1	47
1	45
1	44
1	44
1	41
1	39
1	39
1	37
2	17
2	26
3	54
3	52
3	51
3	49
3	48
3	44
3	44
4	55
4	46
4	46
4	44
4	44
4	42
4	42
4	41
4	36

9. This is your final step: Create a new spreadsheet, leaving *Edges_Setup* open. Save this new spreadsheet as "Edges". Make both an Excel file and a CSV. The CSV file is what you will need for Gephi. Copy and paste columns I and J into A and B of your new spreadsheet. Save your file, and you're done!

Congratulations! You have completed your nodes and edges tables. You should now have two files you will need for Gephi:

1. nodes.csv
2. edges.csv

The next steps will help you get this data into Gephi for your data visualization. We're on the home stretch, so keep with it!

Step 2: Downloading Gephi

Gephi is an interactive visualization and exploration platform for all kinds of networks and complex systems, dynamic and hierarchical graphs. It runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

PLEASE NOTE: You can always use the laptops in the Rolfe Computing Lab to work on your Gephi projects. They have all the appropriate software installed. Alternately, you can work on your personal machines, but you will have to downgrade your Java version to Java 6, which can cause some security vulnerabilities.

Accessing Gephi

1. Download the software directly to your computer by going to the Gephi website (https://gephi.github.io/). You must download version 0.8.1, rather than the most current version (0.8.2). The following link will direct you to the download page for previous versions of Gephi: https://launchpad.net/gephi/+download.

2. You must scroll down to find version "0.8.1 beta release." Once you have located the correct version, find the package for your operating system (i.e. Windows or Mac).

3. Download the file that corresponds with your operating system (i.e. Windows or Mac) and install it on your computer.

4. You must have Java version 6 installed on your computer in order to run Gephi. More recent versions of Java will not allow the program to open.

5. To see which version of Java is installed on your machine, follow the steps on this page to pertain to your operating system: https://www.java.com/en/download/help/version_manual.xml.

Step 3: Data Visualization with Gephi

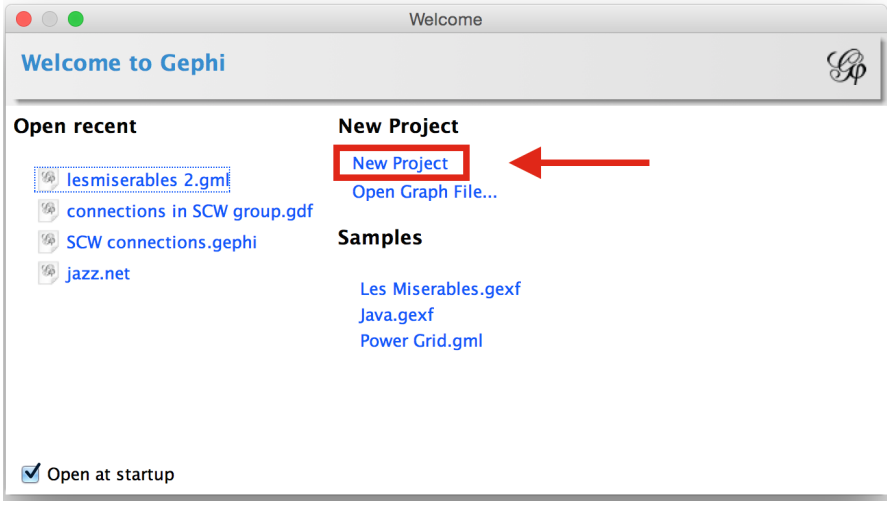
A. Uploading the Data

Once each group's nodes and edges sheets have been combined into master nodes and edges sheets, a master node and a master edge CSV will be uploaded onto the course's CCLE site.

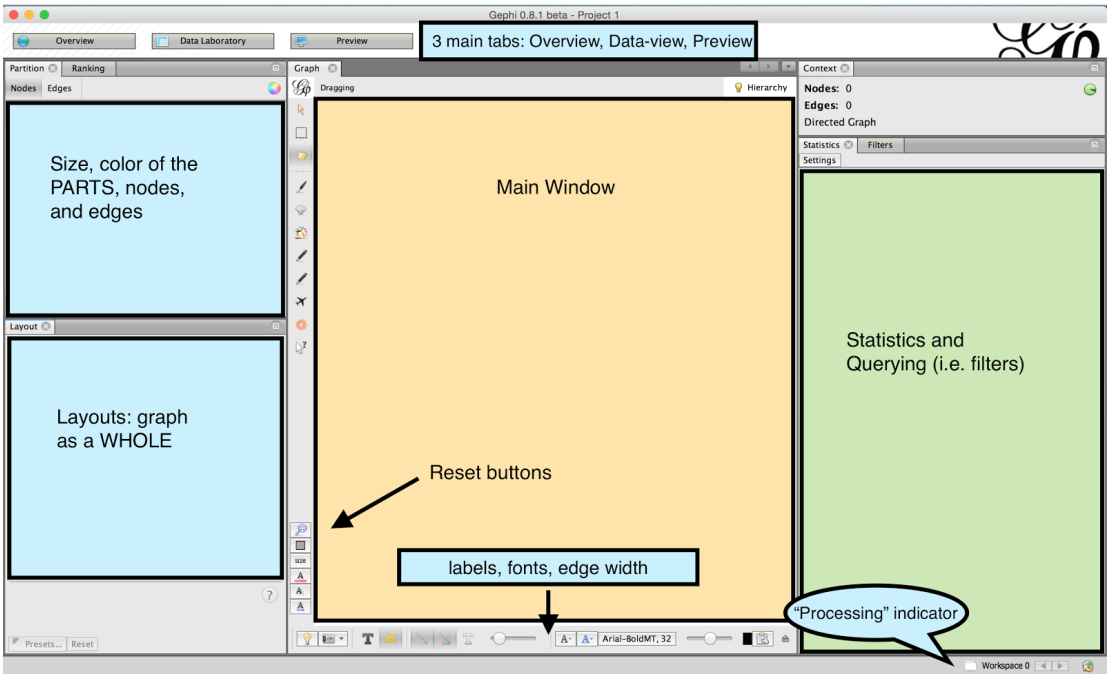
21. Download the CSV files that have been uploaded to the course site and save them to your computer.

22. Next, open Gephi on your computer.

23. You will be greeted with a "welcome" screen when launching the program.

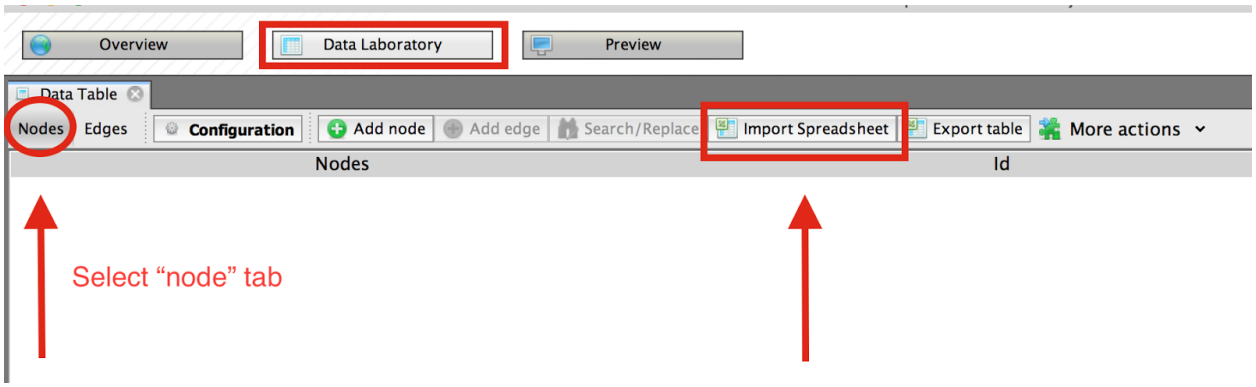


24. If it is your first time opening Gephi, the program will open to the Overview tab. Below is a view of the Gephi interface from the Overview tab:

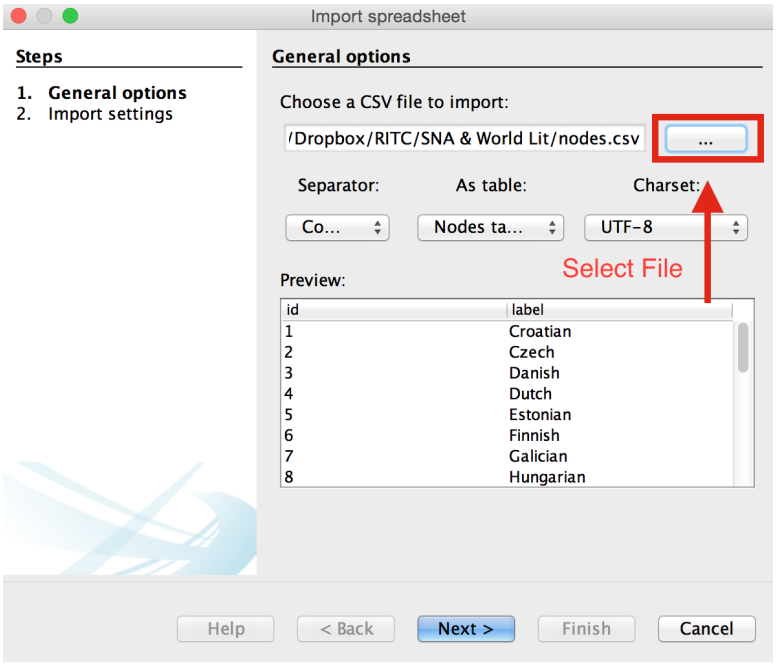


25. To import the spreadsheets, you must leave the "Overview" tab and select the "Data Laboratory" tab.

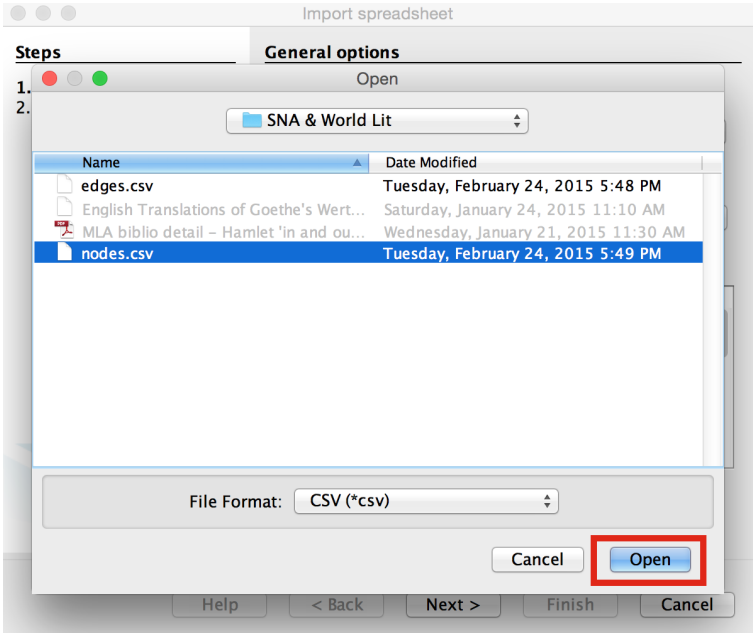
26. First, we will import the nodes sheet to Gephi. Make sure you have "nodes" selected under the "Data Table" tab. Then select "Import Spreadsheet."



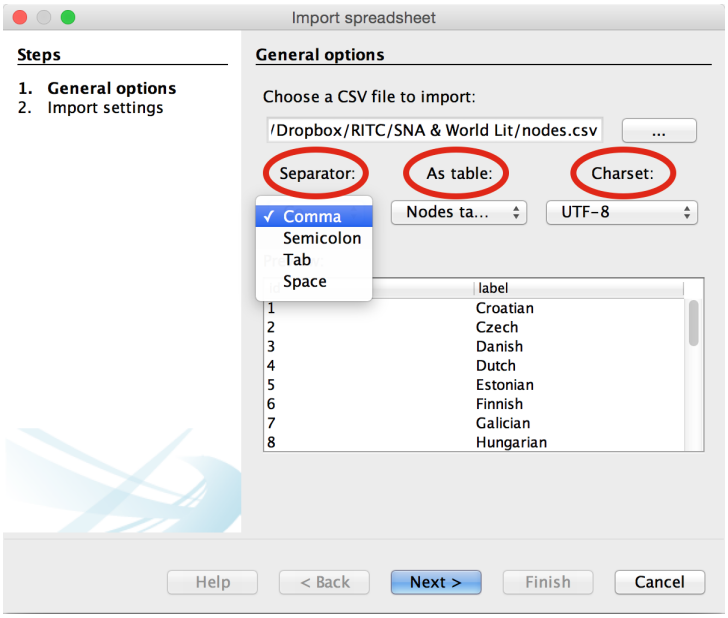
27. A new dialogue box will pop up. Click on the ellipses.



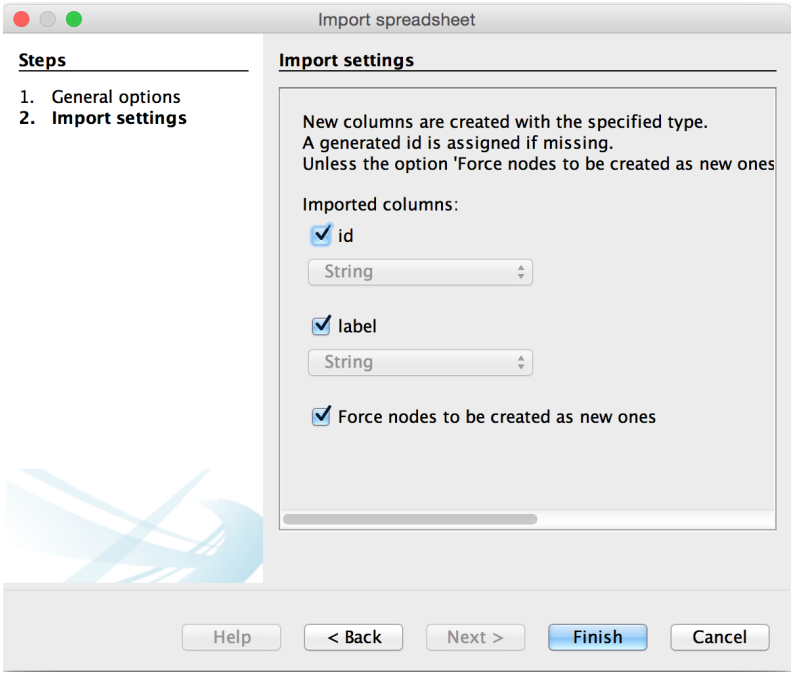
28. Another dialogue box will appear after selecting the ellipses. You will need to find where you saved the nodes CSV sheet on your computer. Select the appropriate file, and select ***Open.***



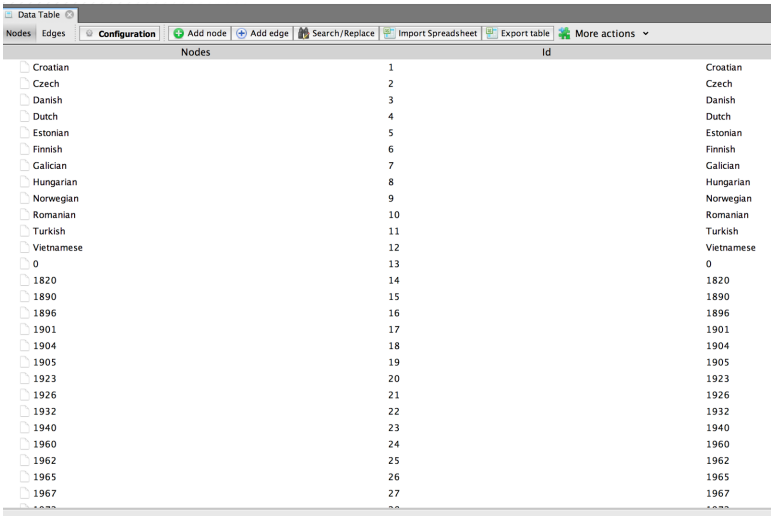
29. You should see the path to your file under "Choose a CSV file to import." Next, we will select the appropriate settings for the import. Under "Separator," select ***Comma***. Under "As table," select ***Nodes table***. Under "Chartset," leave the default of ***UTF-8.*** When you have selected the appropriate settings, select the ***Next*** button.



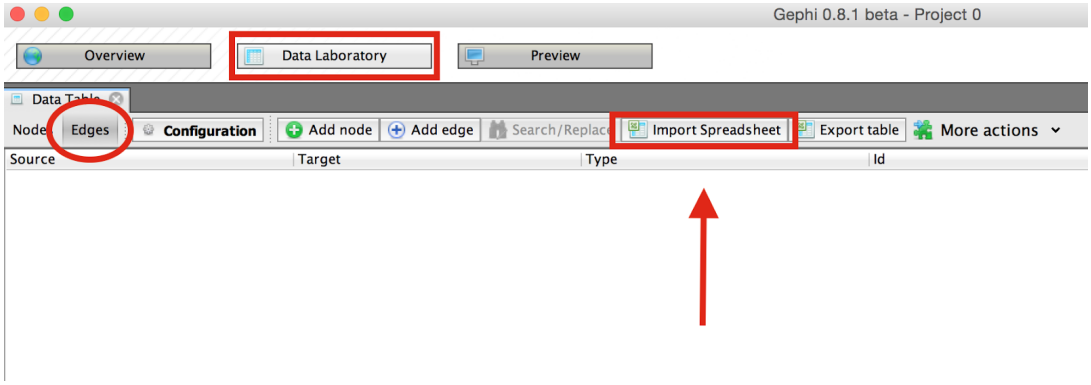
30. The next screen will show the import settings. Ensure that the following columns are imported by leaving the check marks in place: "id, label, force nodes to be created as new ones." Then press ***Finish***.



31. You should now see the data from the nodes spreadsheet in the data laboratory view:

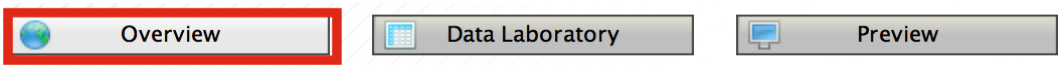


32. Next we will import the edge sheet, make sure you have "edges" selected under the "Data Table" tab. Then select "Import Spreadsheet."



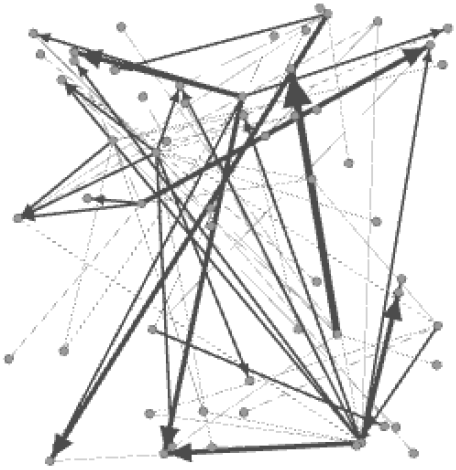
33. follow steps 7-10 from this section of the manual (section IV, A), except instead of selecting the nodes CSV, you will import the edges CSV.

34. After importing your two spreadsheets, you must change tabs from the "Data Laboratory" to the "Overview tab."



D. Controlling the layout

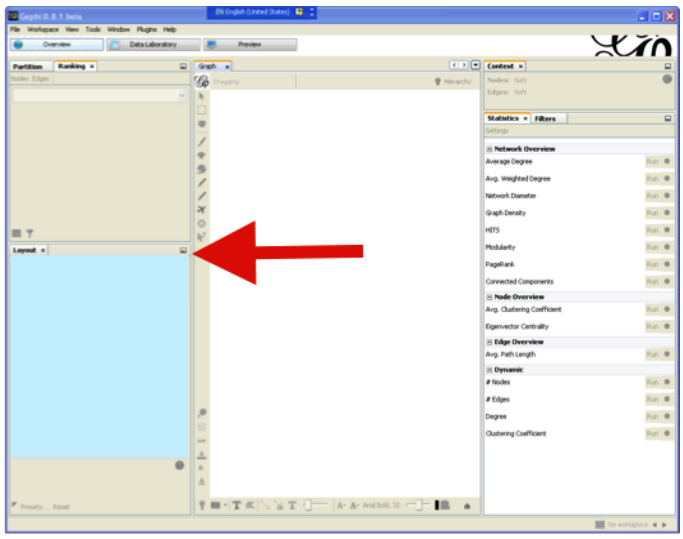
In the main window, you will see a visual representation of the connections in your network. Node position is random at first, so each of you may see a slightly different representation.

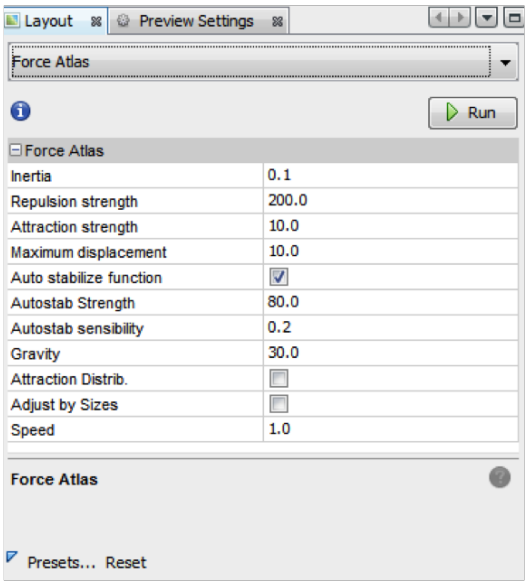


Layout algorithms set the graph shape and is the most essential action in formatting your graph. The purpose of layout properties is to let you control the algorithm in order to make a readable representation of your data.

Force Atlas makes the connected nodes attracted to each other and pushes the unconnected nodes apart to create clusters of connections.

1. Locate the layout module on the left panel and choose “Force Atlas.”



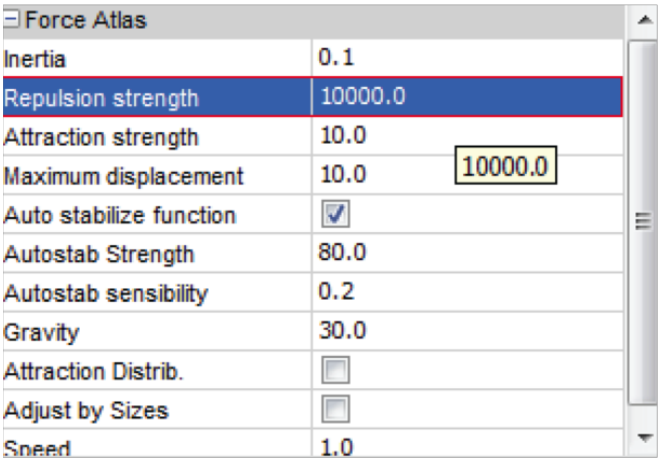


2. You can see the layout properties above. Click on ***run***, then ***stop***.

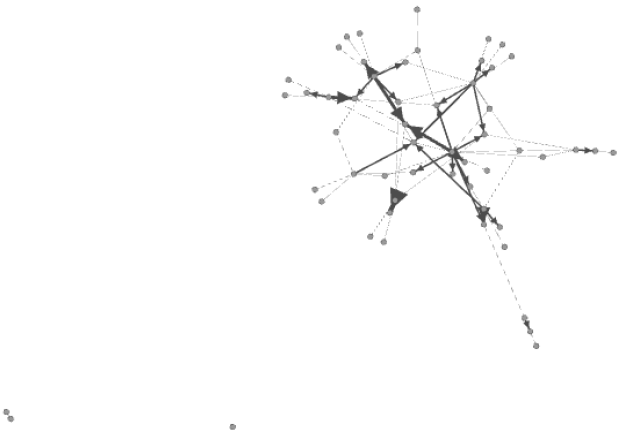
E. Set the repulsion strength

The repulsion strength setting represents how strongly each node rejects others.

1. Set the repulsion strength at 10,000 to expand the graph.
2. Click enter to validate the value.
3. Click stop when it seems as if you have some different clusters.
4. You can play around with higher and lower strengths to see how it affects the node layout.



Your graph has now begun to take shape and show appear in a more organized manner:



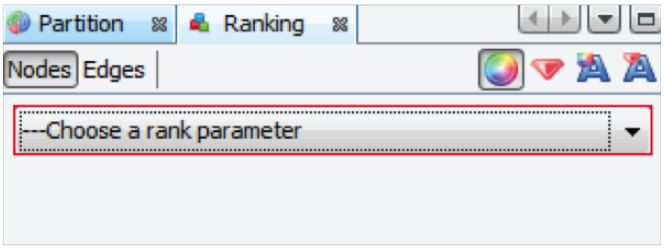
F. Ranking Nodes

The ranking module lets you configure node's color and size.

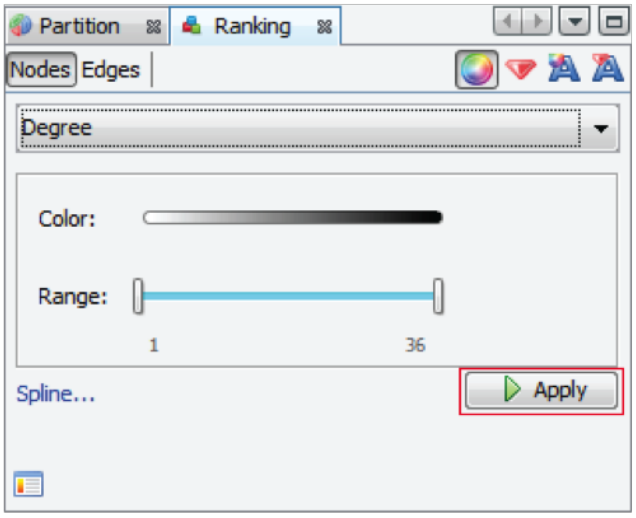
1. Ranking Nodes by Degree:

Ranking nodes by degree ranks them according to the number of connections they have within the network.

a) Choose the ranking tab in the top left module.
b) Ensure that the "nodes" tab is selected.



c) Choose Degree from the menu.
d) Click on ***apply***.



2. Ranking Nodes by Color:

a) Hover your mouse over the gradient bar then double click on each triangle.

b) Try to use a bright color for the highest degree so it's easy to see who's the most connected.

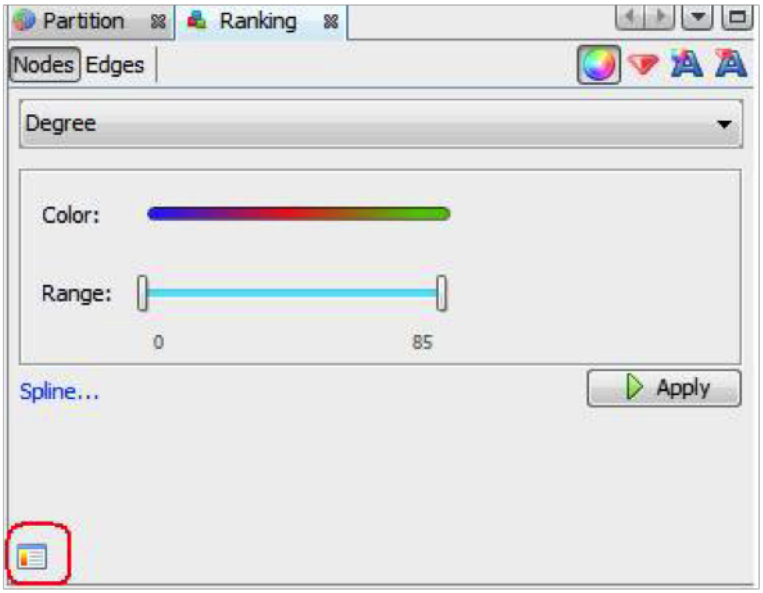
c) Click on ***apply***

3. Ranking Results Table

You can see rank values by enabling the result table.

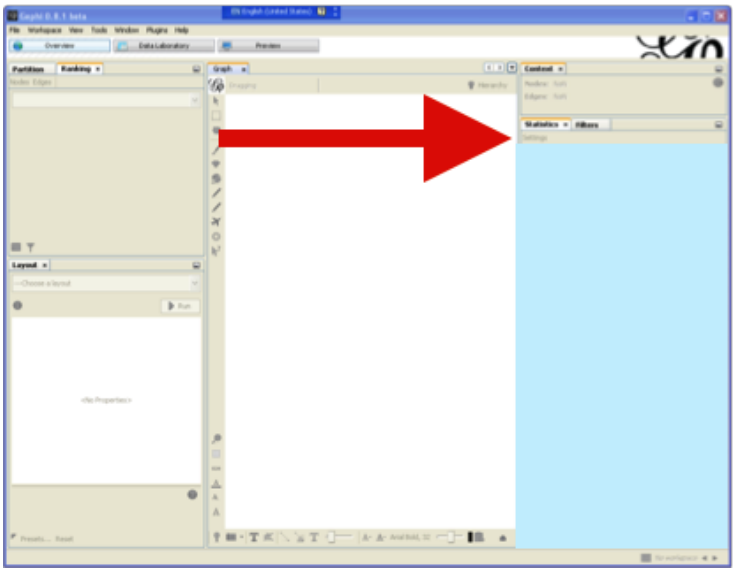
a) Click the table icon in the bottom left of the ranking tab.

b) Click ***apply***

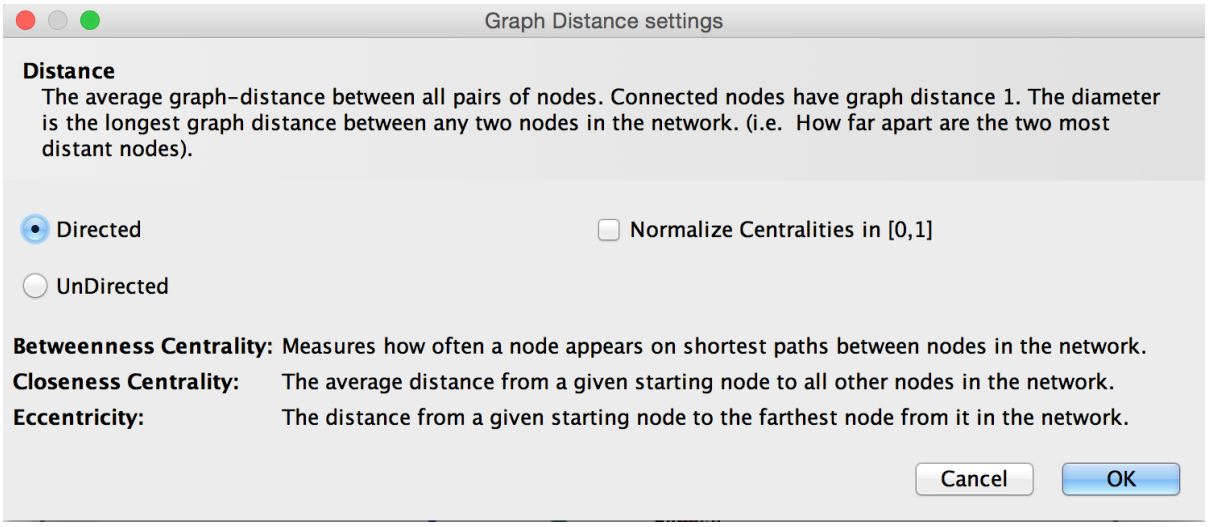


G. Statistics

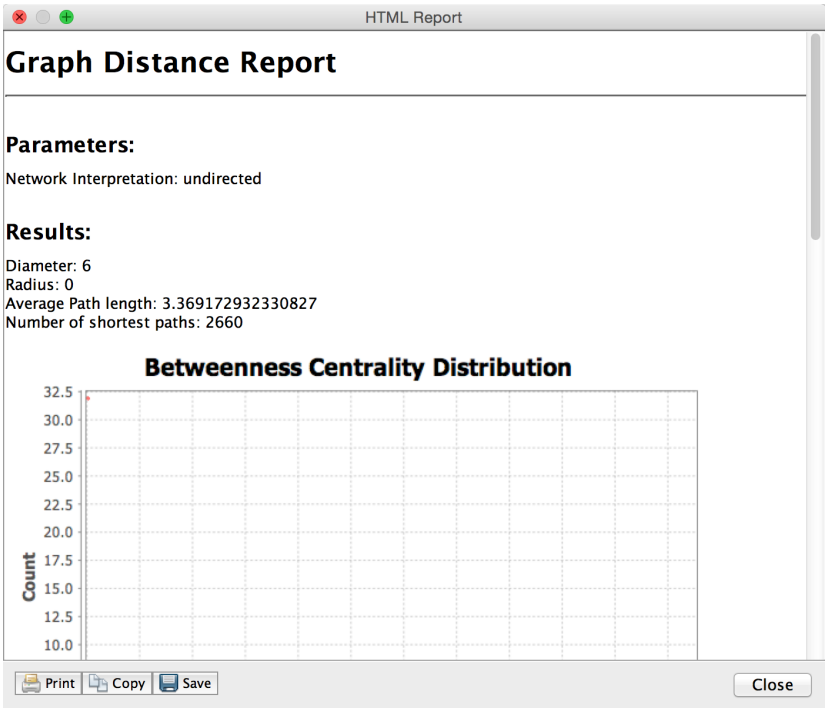
We will calculate the average path length for the network. This statistic computes the path length for all possibles pairs of nodes and gives information about how nodes are close from each other.



1. Click the ***statistics tab*** in the top right module.
2. Click ***run*** next to ***average path length***.
3. Select ***Undirected***, click the checkbox to "normalize centralities" and click ***ok***.


Graph Distance settings
Distance
The average graph-distance between all pairs of nodes. Connected nodes have graph distance 1. The diameter is the longest graph distance between any two nodes in the network. (i.e. How far apart are the two most distant nodes).
Directed
UnDirected
Normalize Centralities in [0,1]
Betweenness Centrality: Measures how often a node appears on shortest paths between nodes in the network.
Closeness Centrality: The average distance from a given starting node to all other nodes in the network.
Eccentricity: The distance from a given starting node to the farthest node from it in the network.
Cancel
OK

4. When finished the metric displays its results in a report like this (betweenness, closeness and eccentricity):

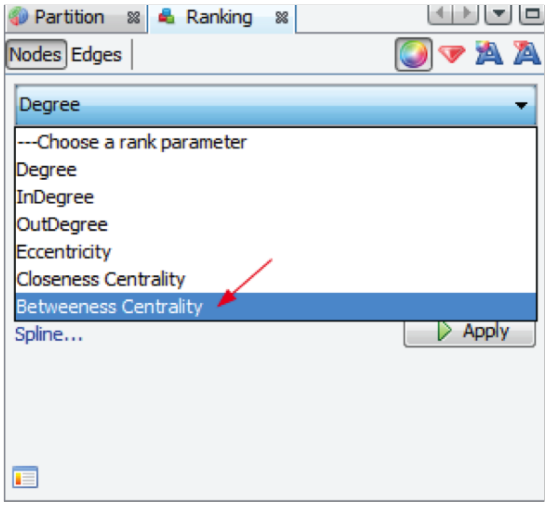


H. Ranking nodes (betweenness)

Running statistics generates general reports like the one above, but it also generates new results for each node. Thus, three new values have been created by the "Average Path Length" algorithm we ran: Betweenness Centrality, Closeness Centrality, and Eccentricity.

In section D1 above, we ranked nodes by degree, which ranks according to the number of connections. Betweenness centrality takes a node's position within the network into account.

1. Return to ranking in the top left module and choose a rank parameter from the dropdown menu: "betweenness centrality."

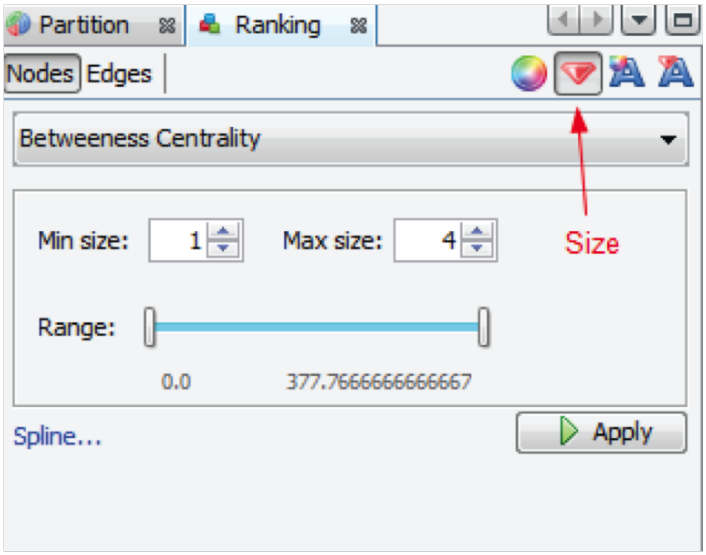


I. Ranking nodes (size)

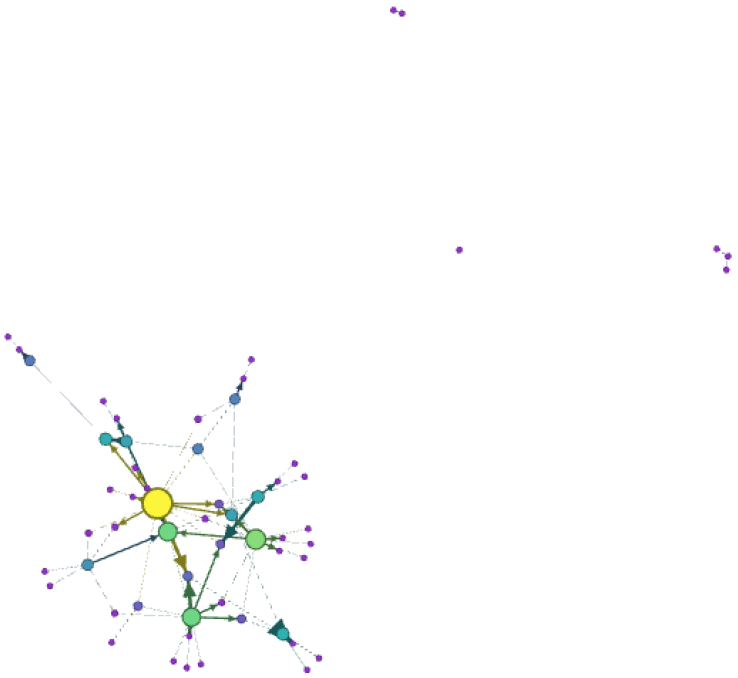
1. Click on the icon for size.

2. Set min size at 10 and max size at 50.

a) Play around with these numbers depending on the size of your network.



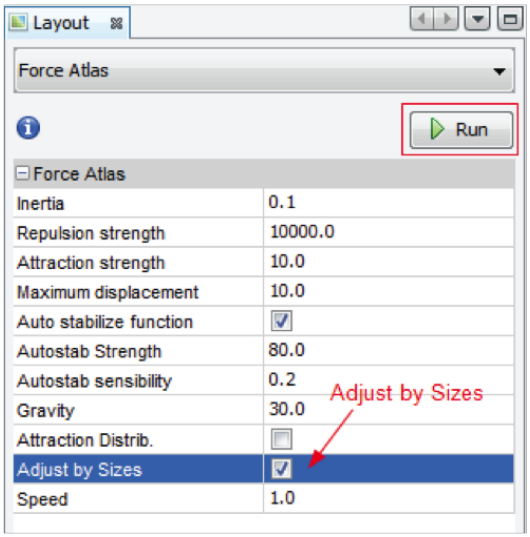
You now have a graph with the node's color and size configured!



J. Layout

To keep large nodes from overlapping smaller ones, go back to the layout panel.

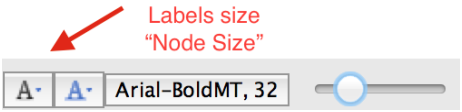
1. Check the "Adjust by sizes" option and ***run*** again the algorithm for just a moment. The nodes will spread out accordingly.



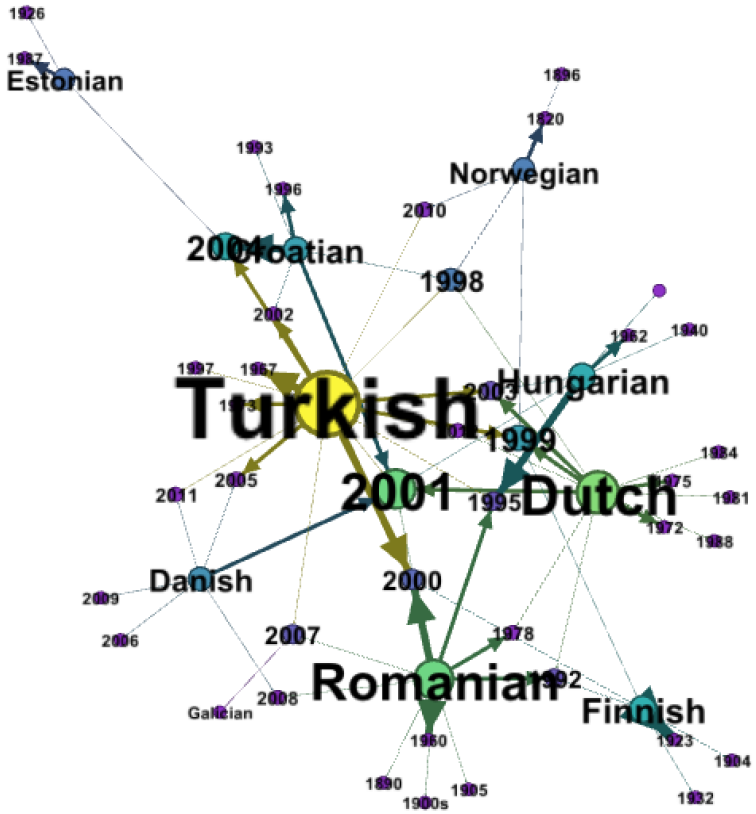
K. Labels

1. Display node labels.

2. Set label size proportional with node size.



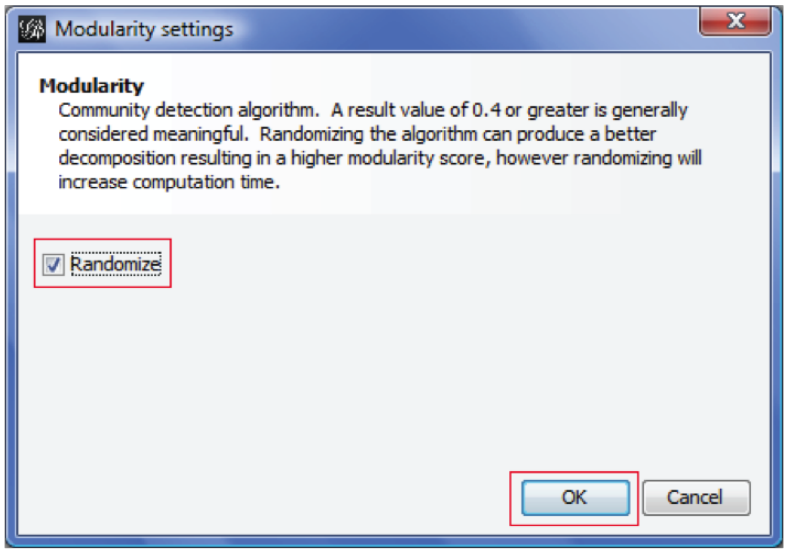
3. Use the slider to adjust the overall label size to your liking. You can also change the font by clicking next to the slider.



J. Community detection

The ability to detect and study communities is central in network analysis. We would like to colorize clusters in our example. Gephi implements the Louvain method to detect communities, and it's available from the Statistics panel.

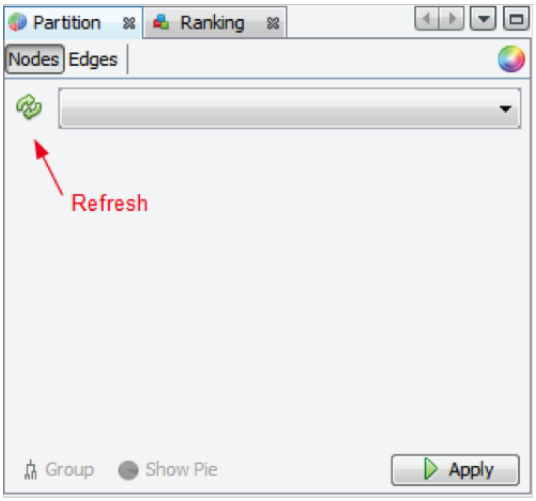
1. Go back to the statistics panel and click ***run*** near the "Modularity."
2. Check "randomize" and click ***ok***.


Modularity settings
Modularity
Community detection algorithm. A result value of 0.4 or greater is generally considered meaningful. Randomizing the algorithm can produce a better decomposition resulting in a higher modularity score, however randomizing will increase computation time.
Randomize
OK
Cancel

K. Partition

The community detection algorithm created a "Modularity class" for each node, which we'll use to color the communities. Communities are clusters of nodes that are more connected to each other than with the rest of the network.

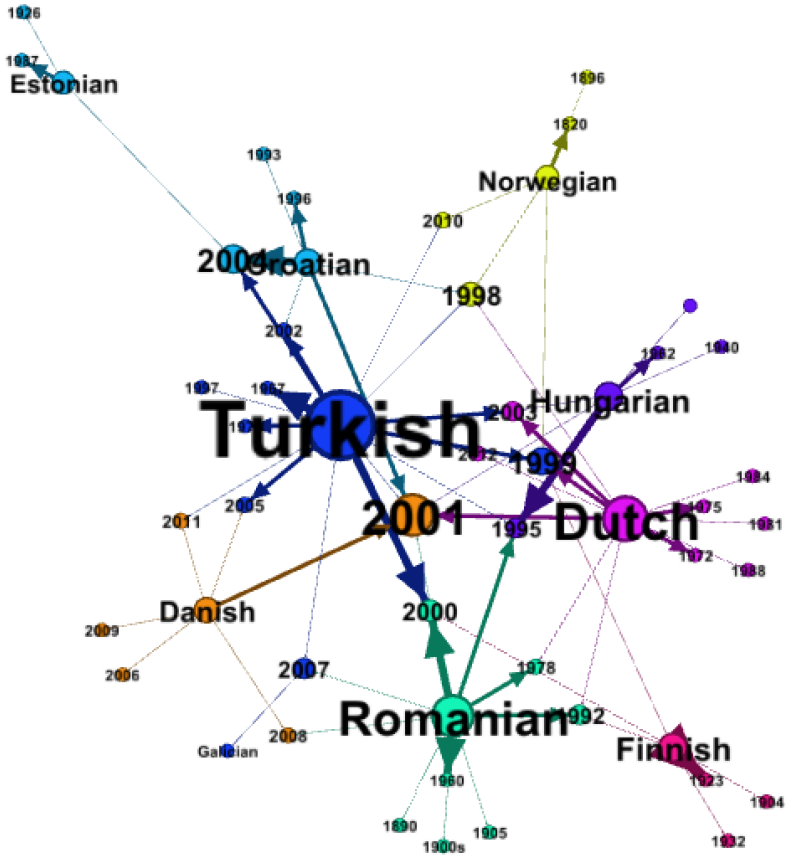
4. Locate the partition module on the left panel and click on the refresh button to populate list.



5. Choose “modularity class” from the menu.

6. You can click “randomize colors” if you don’t like the colors.

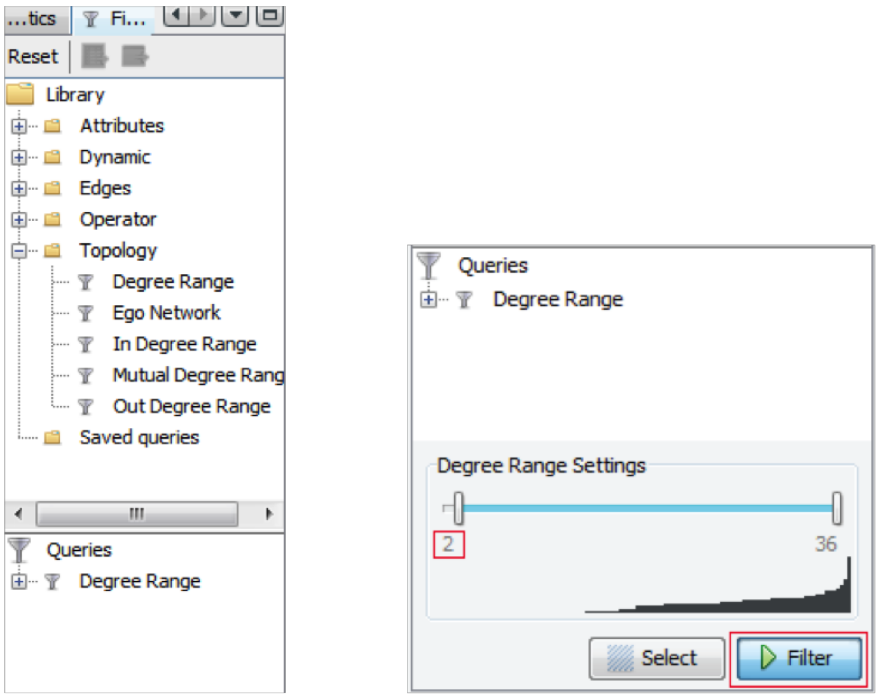
7. Click ***apply*** to color.



L. Filters

The last manipulation step is filtering. You create filters that can hide nodes and edges on the network. We will create a filter to remove “leaves”, i.e. nodes with a single edge.

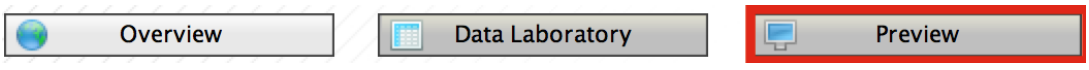
1. Go to the filters in the top right module and open the “topology” folder. Drag the “degree range” filter in to the “Queries” and drop it to “drag filter here.”



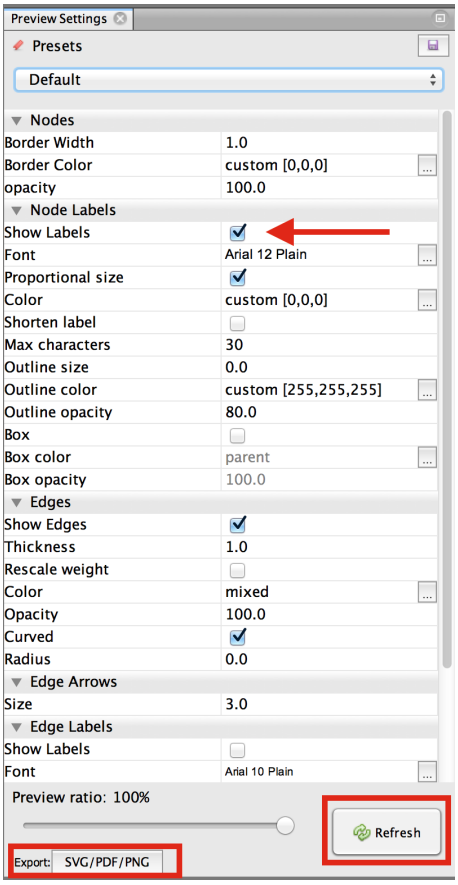
2. Click on the “degree range” to activate the filter. It shows a range slider and the chart that represents the data, the degree distribution here. Move the slide to sets its lower bound to 2 and filter. Nodes with a degree less than 2 are now hidden.

M. Preview

1. At the top left click on the preview tab.



2. Under node set check “show labels” and click refresh at the bottom.

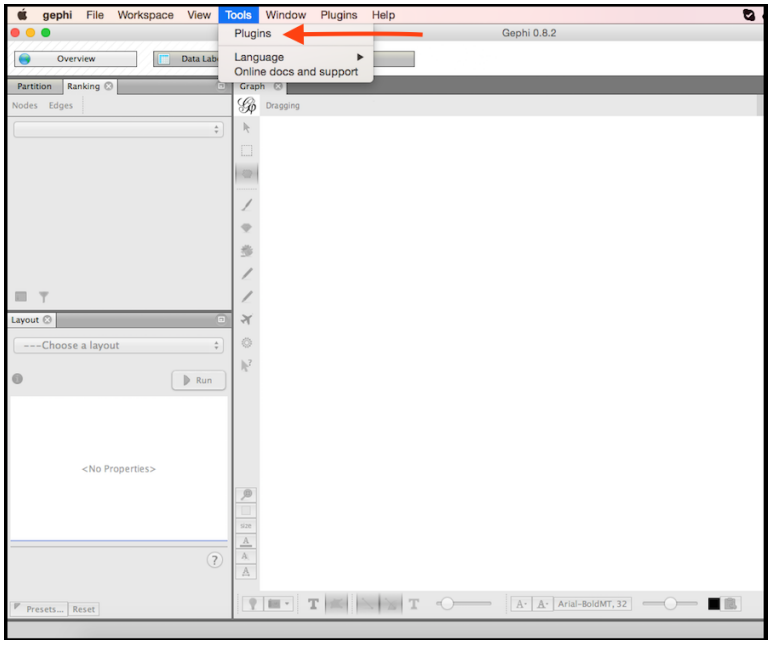


3. Click on the presets list and try different configurations.

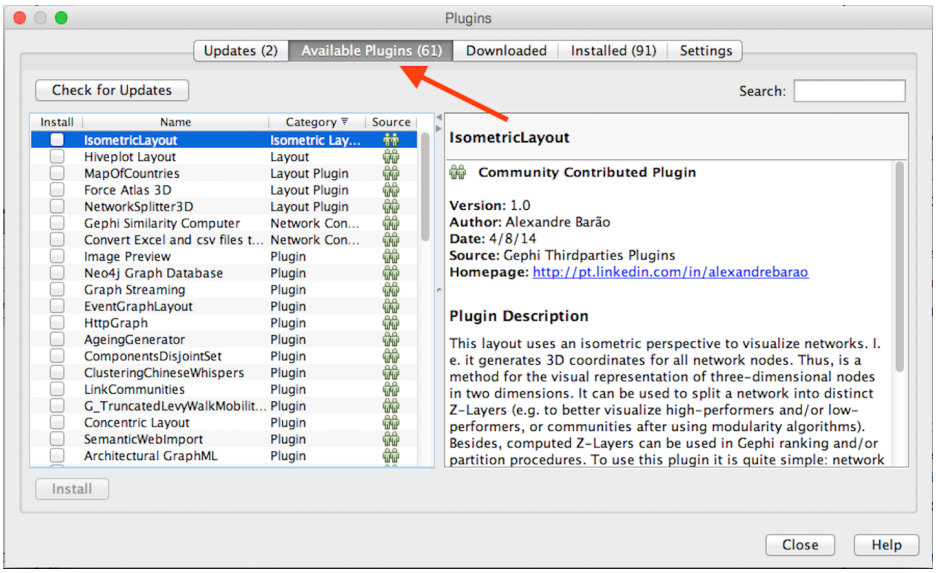
N. Exporting the file

Before you can upload your file into the website, you will need to first make sure that you have the proper plugin. This is a four step process.

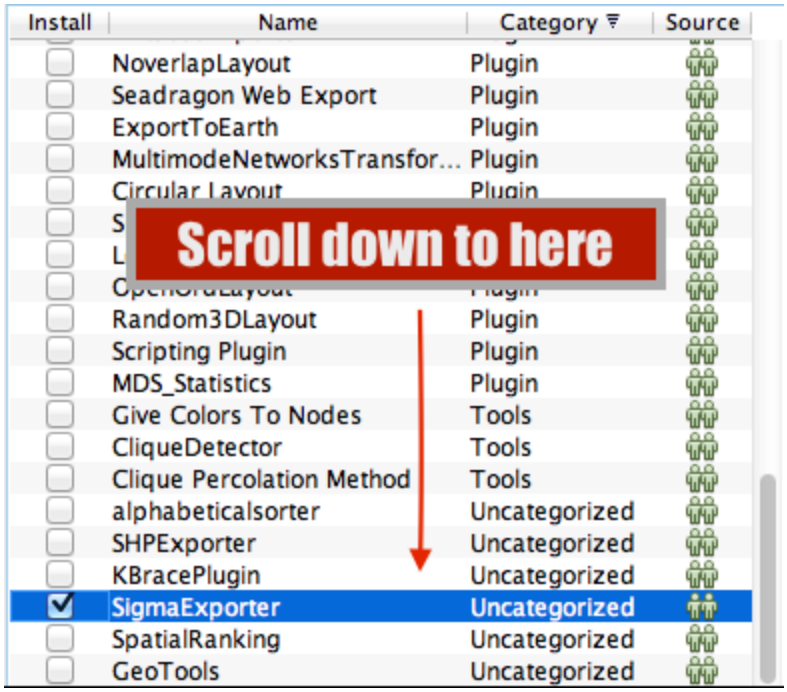
Step 1: Under the “Tools” drop down menu choose “Plugins”



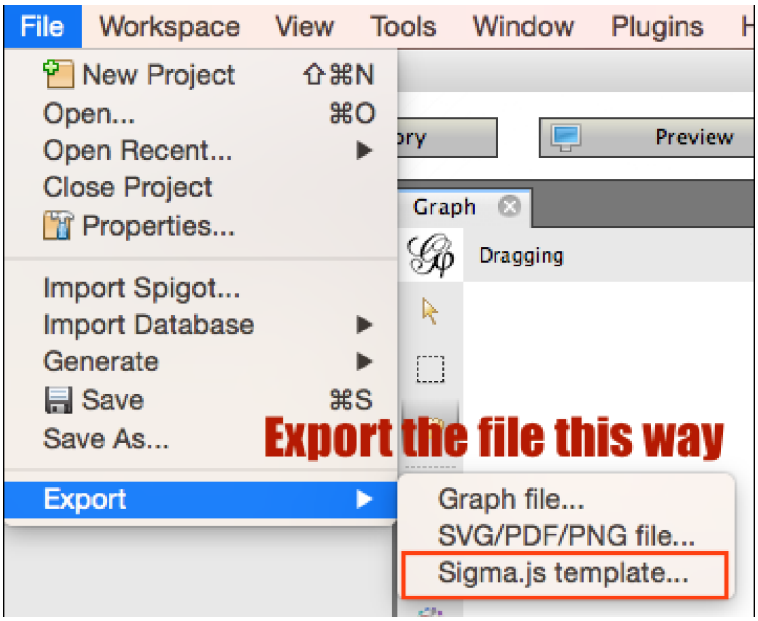
Step 2: Withe the Plugins window open, choose Available Plugins and scroll down.



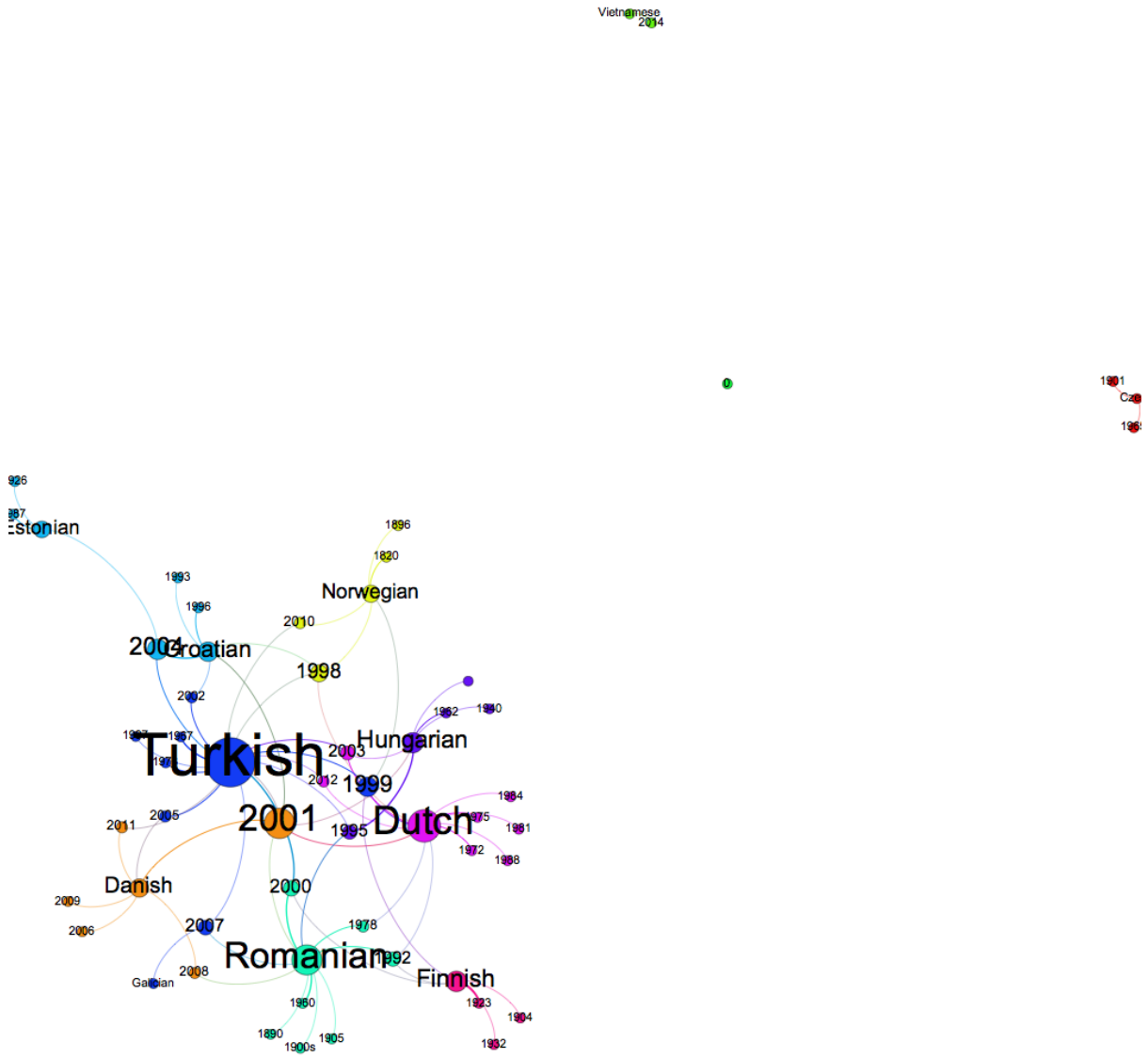
Step 3: Scroll down to “SigmaExporter”, check the box and install it. Gephi will ask if you want to restart, restart and then prepare to export the file once it reopens.



Step 4: Once you have restarted Gephi and your file is ready to be exported, click on the “File” menu, scroll down to the “Export” and chose the “Sigma.js template...”



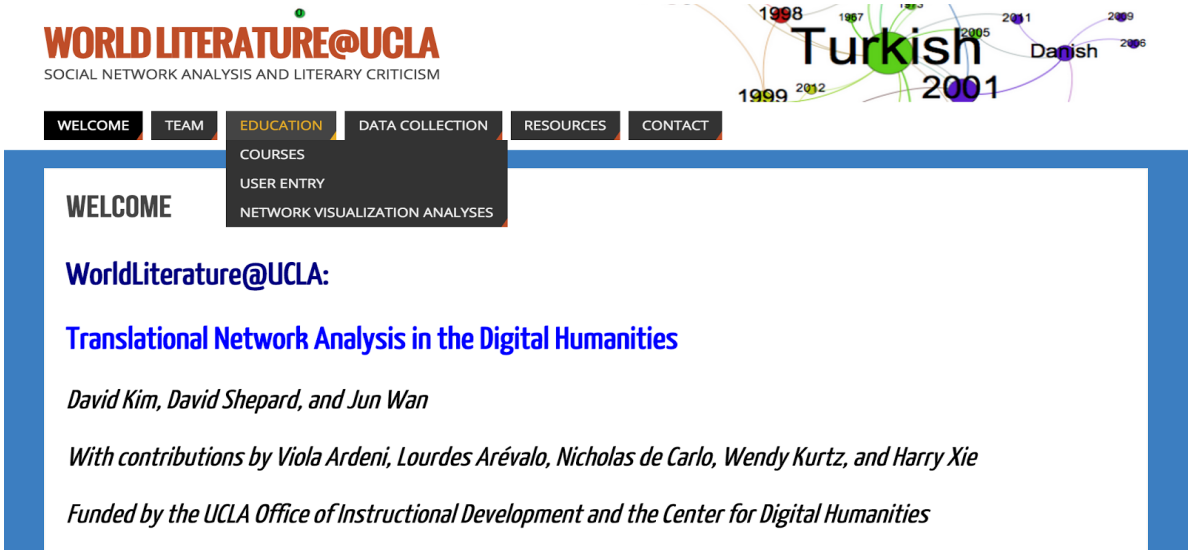
Now you have exported your file and you are ready to import it into the World Literature website.


Vietnamese
2014
0
Estonian
1896
1820
Norwegian
1993
1996
2010
2004
Croatian
1998
2002
Turkish
Hungarian
2003
1999
2001
Dutch
2005
2011
1995
Danish
2000
2009
2006
2007
1978
Romanian
1992
Finnish
2008
1950
1890
1900s
1905

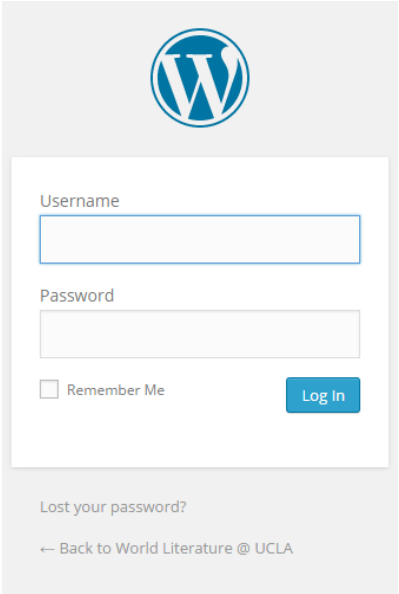
Step 4: Uploading student project on *WorldLiterature@UCLA*

A. Login account

1. From the WorldLiterature@UCLA main page (worldlit.cdh.ucla.edu), Click "USER ENTRY" under the menu "EDUCATION".

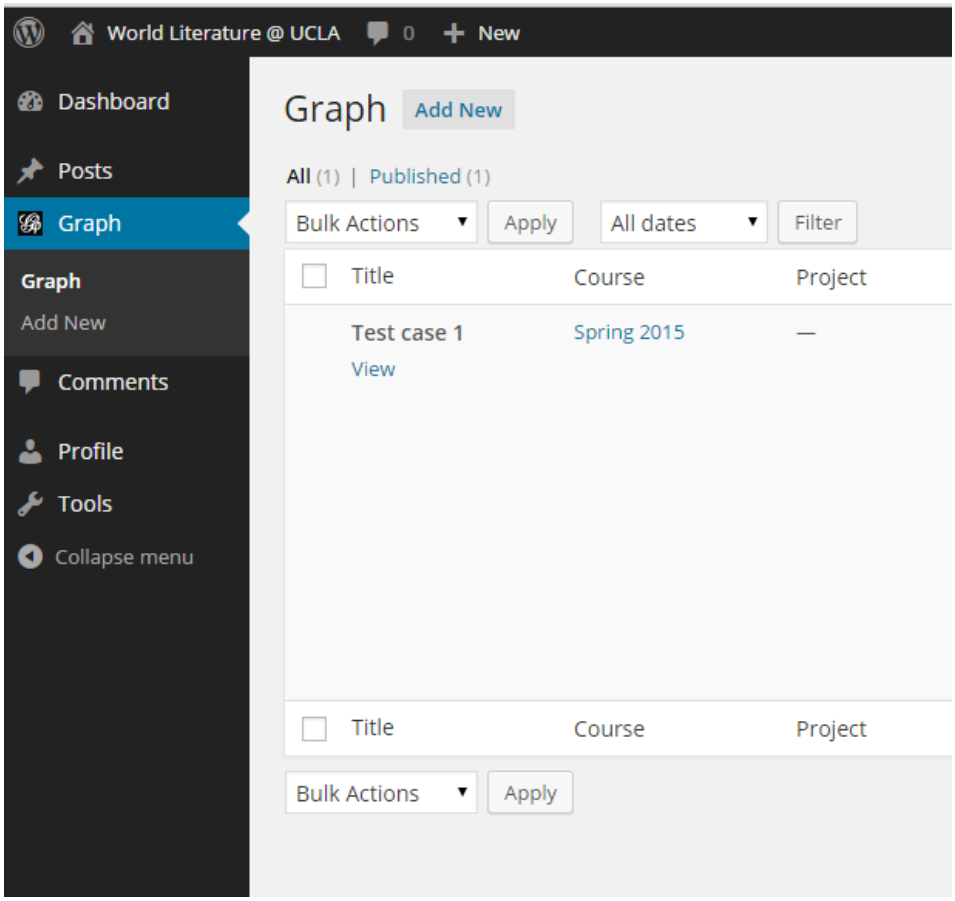


2. When you see the following login form, please fill out the username and the password foryour account. Click ***Log In***.

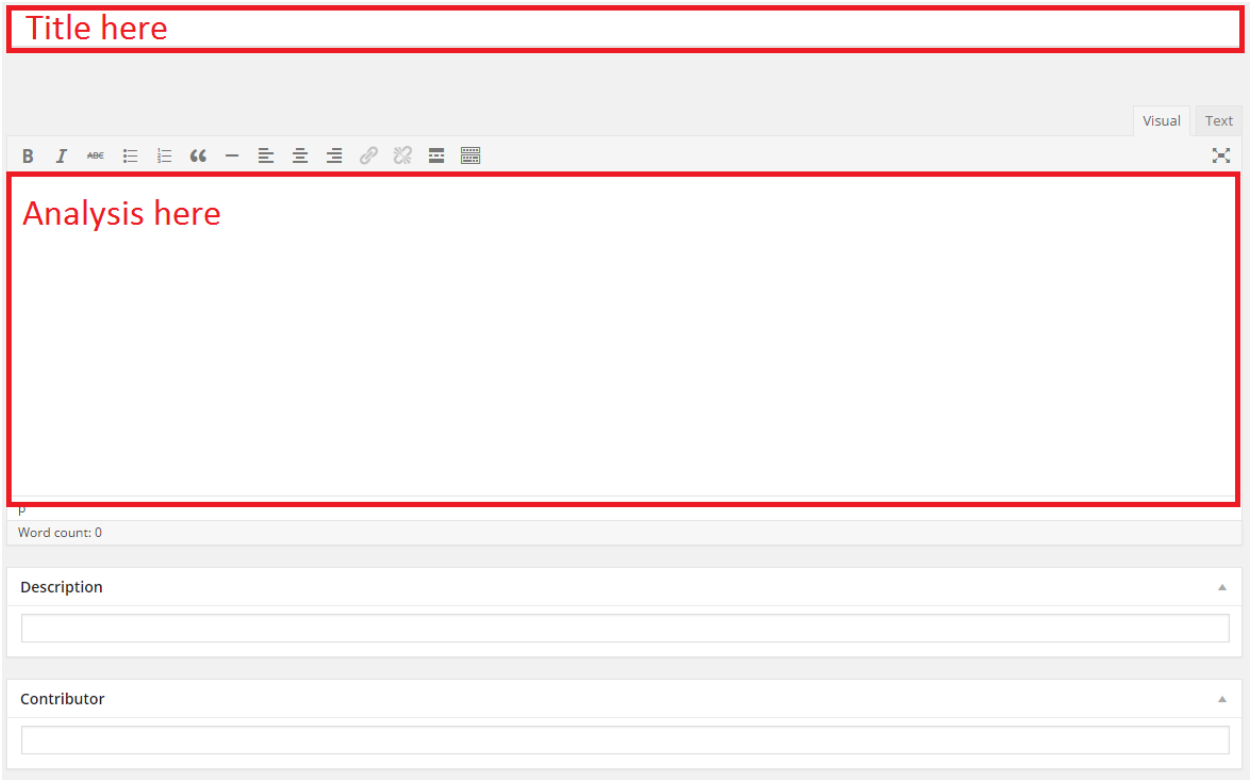


B. Add new graph

1. After login to the system, click ***Graph*** from the left side panel. Then select, ***Add New***.

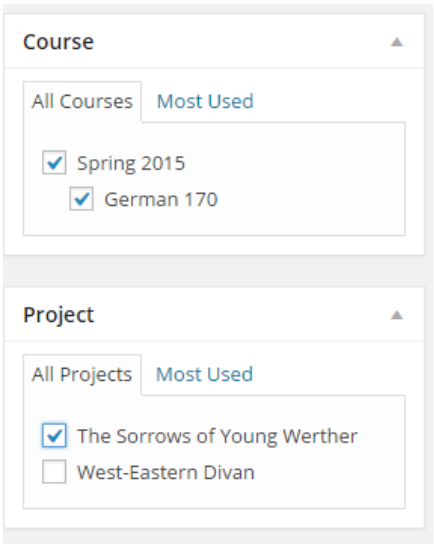


2. A blank graph page for a new graph entry will be displayed. Input the project title where it says “Enter title here” and paste the analysis of your graph in the text box.

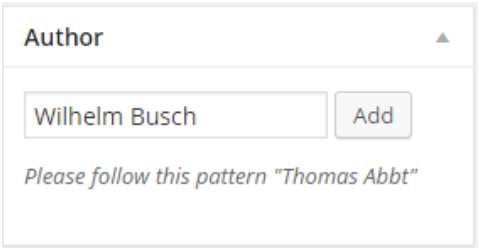


3. In the Description and Contributor panel, input a short description of your project and the names of all contributors.

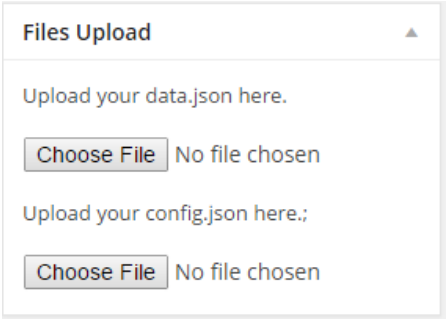
4. In the Course and Project panel, select the tags to which your submission belongs. Under "Course," select the course term (i.e. Spring 2015) and course title (i.e. German 170) for your tags. Under "Projects" indicate which text pertains to your project (i.e. *The Sorrows of Young Werther* vs. *Faust*)



5. Input all the authors of the literatures you work on. Click "Add" every time after you input a new author name. Be sure to capitalize the first letter of authors' names.

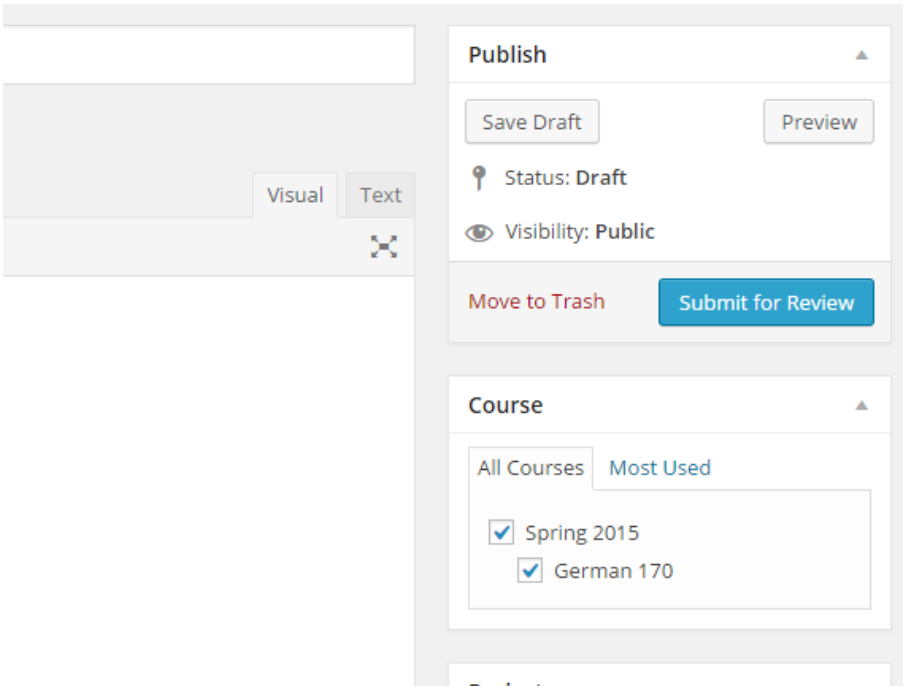


6. In the Files Upload panel, click "Choose File" to select your data.json and config.json files.



C. <u>Upload and review</u>

1. After entering all content in last steps, click "Submit for Review."



2. Your project has now been submitted for review by your instructors. You can preview your post by clicking ***Preview post***.